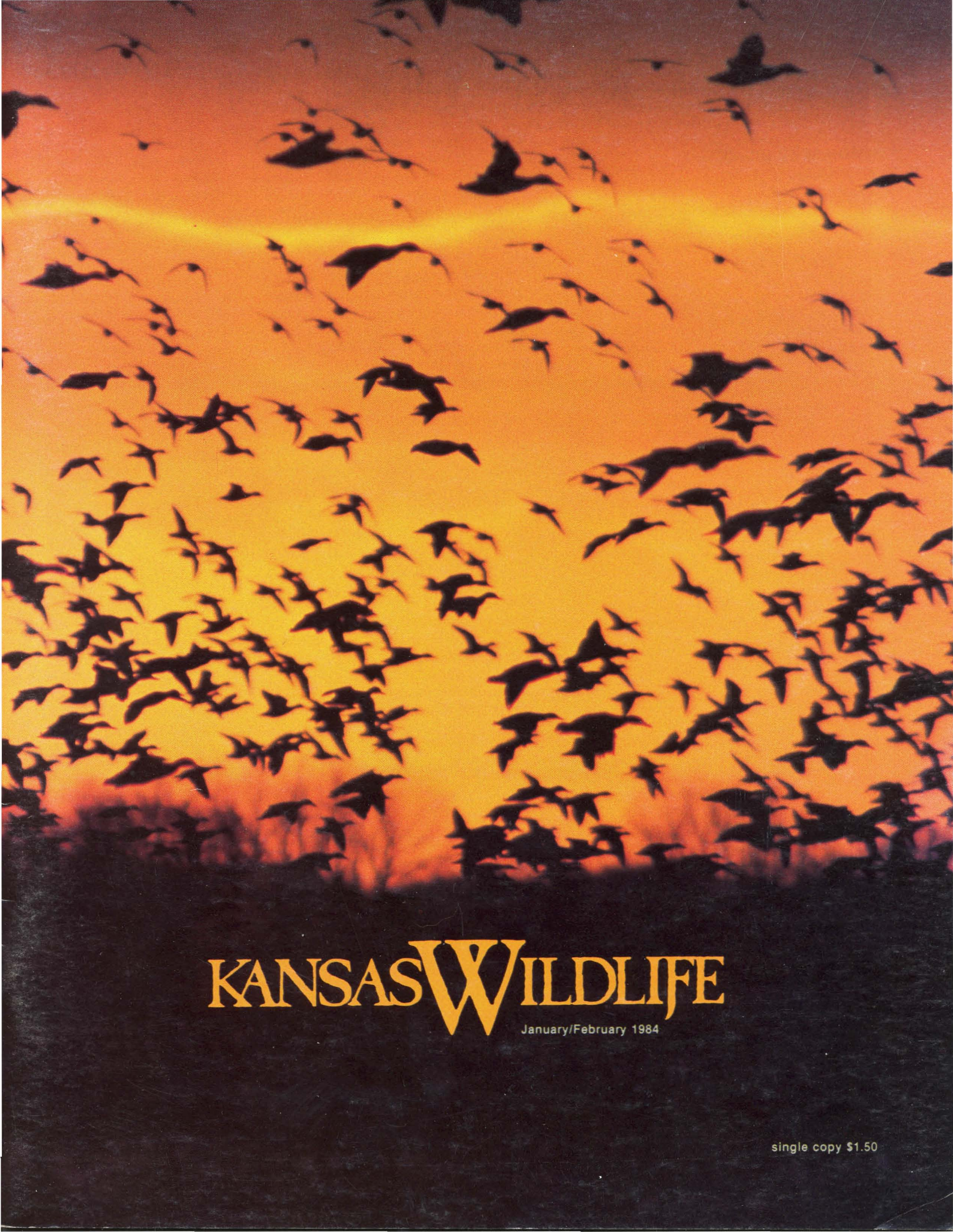

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# Editorial

The sign was hung over the aisle in a supermarket: "There is nothing so powerful as an idea whose time has come." What that had to do with tuna and canned corn I've not yet determined, but I remembered the line.

Environmental issues today are more complex than those of fifty years ago. Not because they are of greater importance or affect more of the resource—indeed, the reverse is often true. Simple problems become complex only when more people become involved, more peripheral issues added, more stipulations hung on each alternative. Unfortunately, but not surprisingly, the more closely each issue is examined, the less likely we are to come up with a satisfactory answer. In other words, ignorance, if not bliss, is at least neat. By trying to please everyone, we deny or postpone solutions to many of our most pressing national concerns—environmental and otherwise.

But, you argue, doesn't the contribution of many minds, the consideration of legion side effects ensure against hasty decisions that could unleash worse problems? Yes. Still, in everything there is a time for action. "No decision" *is* a decision. Time rarely allows the luxury of delayed response—especially when the environment is at stake.

Naturally, there must be a solution to this problem of coming up with solutions. And the logical course is, to many, to shuffle policy-makers—the James Watts, if you will. After all, if policies are ill-advised or decisions withheld to the detriment of the resource, will not other, more capable leaders improve the situation?

Maybe. But those holding the reins of political power are merely human. As such, they are less a determinant of future events than a product of those past. Man likes to think he controls his own destiny; in fact, his experiences tell him which buttons to push. Volition appears to be largely a response to that of which he is not cognizant.

This is not to say we are all pawns in the whimsical hand of fate. Nor that we're programmed by our experiences to behave rigidly, predictably, without higher motive. Indeed, the most obvious distinction between man and other creatures is the human prerogative of experimentation. Animals may be curious, but they do not reach for knowledge—only satisfaction.

As we struggle for answers to the resource questions of our time, we must take care that we do not respond to the alternatives of others with automatic, mindless opposition—recalcitrance spawned by our own limited experiences. It is often difficult to separate our personalities from our arguments. Still, if we do not, we may be compromising the resource for the satisfaction of fulfilling our own pet dictums. The same principle works to limit our perception of other problems, when we shut out the message of a speaker because we reject his personality.

No two of us will ever completely agree on the best use of the resources we all cherish. Objectivity, then, is really not an attainable end. Even if we *could* be objective, arguments would still ensue. Who, after all, is the expert? Who can best interpret the past, analyze the present, predict the future? Will coal save the nation? Is nuclear power the key to survival? Will we, by protecting snail darters, doom ourselves?

Answers to environmental questions are never final; our decisions today create the problems of tomorrow. The prerogatives of future generations hinge on the choices we make now. Even the most enlightened decisions contain unhatched dilemmas that will mature and fledge in due time. These cannot be dealt with now; neither should their presence be forgotten. With all this to think about, it seems a tragedy that environmental policy often issues from the milieu of personal vendetta, industrial ledger requisites, political pressure, and the cries of those who would preserve that which cannot be preserved. The meeting of narrow minds rarely results in sensible solutions.

Whether you use the outdoors for hunting, hang-gliding, hiking, or paramilitary training, you are interested in its destiny. At least you should be. Because if you aren't, someone else with limited knowledge and foresight, under the inexhorable influence of his own narrow life experience, is going to override your silence with a shrill, if misdirected cry.

Your voiced opinion, be it in support or opposition, is valuable. Not only does it demand consideration of itself; it becomes a part of the times, a contribution to someone else's experience. That someone may be a policy-maker, directly affected by your ideas, or a future leader whose background is now being molded by what is written, spoken, argued by those around. You cannot help but influence people by your very being. How productive that influence becomes depends on your ability to transcend selfish motives and penetrate to the core of each issue. It is much, much easier to stop on the periphery.

Yes, by becoming involved, you add to the complexity of each question. But yours may be the only voice of reason; can you afford not to contribute? Nothing is so powerful as an idea whose time has come. And nothing can hamstring its usefulness so effectively as a committee, lobby, or advisory group comprising only individuals who put their egos on the line. Simplicity is, indeed, a virtue; but apathy solves no problems. Even the most powerful ideas must be recognized to be effective.

The complexity of our resource questions today is, perhaps, inevitable. Answers are, predictably, becoming more elusive—whether the issue is the selling of our national forests, the reclaiming of a strip mine, or the distribution of trash cans in a city park. We can each make positive contributions to the resolution of such problems, provided we ignore the pull of pettiness, dig beneath the rhetoric of those trying to bend our thinking, and realize that, just as we are the products of our own environs, we create the climate that determines the attitudes of future policy-makers. On these attitudes the welfare of our earth ultimately depends.

# sparrows: the plain vanilla birds

*Just sparrows? You may be surprised at the diversity in this group. How many species can you identify afield?*

Rob Manes

*Ron Spomer photo*

"Are not two sparrows sold for a penny?" Even the Bible belittles sparrows; but in the same passage the Apostle Matthew also gave the birds divine recognition, "And not one of them will fall to the ground without your Father's will." Today when someone mentions sparrows, we immediately visualize a brownish, unglorified bird, with only a shapeless patch of dark feathers to lend any definition at all. As for song, sparrows are thought to muster only an irritating chirp, easily imitated by drawing one's fingernails across a chalkboard.

Sadly, the so-called English sparrow, or house sparrow, is given power of representation for all sparrows. Introduced to America in the 1700's for the purpose of insect control, this immigrant has become a nuisance in cities and on farms, giving rise to a multitude of indictments against true sparrows. Actually, the English sparrow is a finch . . . not a sparrow at all!

Ask most Kansans how many different species of sparrows can be found in the state, and you usually get answers in the neighborhood of three to six. "Who knows? They all look alike, don't they?" Well, no less than twenty-six species inhabit the Sunflower State, which is graced by sparrows from both eastern and western ranges.

Under close scrutiny, sparrows emerge as delicately-marked, often colorful birds. They're country dwellers, too, unlike the maligned English transplant, which thrives in cities. The most frequently-seen sparrows in Kansas are tree sparrows. They migrate here in October and stay through April, inhabiting brushy areas in all but the most western regions of the state. Often feeding along weedy roadsides in huge flocks, tree sparrows are probably the most common bird in automobile grills. They can be attracted to backyard feeders with

small seeds, such as millet. Their deep rust-colored cap and large, central breast spot are good identification characteristics.

Kansas boasts possibly the largest Harris sparrow population in the United States. These birds can be seen darting about in thickets and low forest understory during winter months and are commonly encountered at feeders. Harris sparrows are distinguished by their dark bib, pink bill, and streaked sides.

Another common visitor to bird feeders in Kansas is the white-crowned sparrow. This bird prefers habitat similar to that of the Harris sparrow and is found across the state. The white-crowned sparrow bears striking dark and light bands on its head, making this bird easy to identify. Its erect posture is another field mark. White-crowns are abundant in hedgerows adjacent to open areas.

The white-*throated* sparrow is fond of dense brush, but will come to a feeder. Its range includes the eastern half of our state. A distinct white throat patch and short, husky neck distinguish the white-throat from the white-crown, which bears similar head markings.

Fox sparrows are large for their kind, with a rich, rusty plumage that makes them conspicuous when they appear briefly above their preferred dense, riparian (streamside) habitat. They are secretive, solitary birds, but can be attracted to a feeder properly situated near heavy shrubs or a backyard brushpile.

Savannah sparrows are common fall and spring transients in Kansas, rarely spending winters in the state. Inhabiting the sparsely-covered shortgrass prairie, they can be identified by their stubby, notched tail and streaked breast. When flushed, savannah sparrows will fly only a short distance before dropping back into cover.

Another grassland resident is the grasshopper sparrow, which nests in burrow-like hollows under the grass, usually laying five eggs. The grasshopper sparrow can be identified by its buff-colored breast, stubby tail, and distinct song. When singing, it throws its head back and emits two or three short ticks, followed by an insect-like trill.

The Baird sparrow is an uncommon visitor to Kansas during April and August. Specimens have been found in Lane, Cowley, and Sherman counties. An orange stripe down the middle of the head separates the Baird sparrow from similarly-marked savannah and sharp-tailed sparrows.

The Le Conte sparrow is a winter resident in Kansas, spending cold months in the tall pasture and marsh grasses of southeast counties. Le Conte sparrows are fairly uncommon, even in their range, and their secretive nature makes them an unlikely encounter. Bird-watchers have learned that a squeaking noise, made by sucking on fingers through puckered lips, may cause the Le Conte sparrow to appear above the grass for a few seconds. A white crown stripe and bright orange or yellow stripe through the eye set the Le Conte sparrow apart from all others.

Henslow sparrows are common summer residents of northeast Kansas, especially on the Konza Prairie, where they frequently nest. Research done in the past ten years has provided much information about this previously obscure sparrow. While the Henslow sparrow's song is, at best, unmusical, its olive head and dark brown back distinguish it from other sparrows.

***The Harris sparrow (opposite) may be more common in Kansas than in any other state. Grasshopper sparrows (below left) are ground-dwellers. The ubiquitous tree sparrow (below right) is easily recognized by its black breast spot.***

*Gene Brehm photo*

*Gene Brehm photo*

The white outer tail feathers of the vesper sparrow set it apart from others of its kind. These birds are common summer residents in Kansas' western grasslands. The voice of the vesper is very much like that of the song sparrow, with two longer, slurred introductory notes that differentiate the calls.

A showy face pattern of black, white, and chestnut adds to the lark sparrow's dapper appearance. A common Kansas native, the lark sparrow usually lays a clutch of four eggs in early or mid summer. This sparrow inhabits woodland-grassland edges. Its otherwise melodious song is interrupted by incongruous buzzes and trills.

The sharp-tailed sparrow is seen rarely in Kansas, and then only during spring and fall migrations. Its highly secretive habits make it appear even less common than sightings suggest. A distinct orange triangle on either side of the face makes the sharp-tailed sparrow easy to identify when encountered in its preferred marshy habitat.

Only two records exist of rufous-crowned sparrows in Kansas—one in Morton County and one in Commanche County. These birds may spend summers in Kansas, when weather and other conditions are favorable. Rufous-crowned sparrows are more common in the arid shortgrass prairies of southwestern states. Their rust crown and black whisker marks accent a buff-colored body.

Because the Bachman sparrow is similar to the ubiquitous tree sparrow in appearance and habitat preference, it is often lost in crowds of the more familiar species. On closer examination, though, the Bachman sparrow displays a distinctive dark upper mandible with a light-colored lower bill and a striking dark tail.

Cassin sparrows are common nesters in the sandsage prairie of southwest Kansas. They generally lay four eggs in a nest suspended from sagebrush branches just inches from the ground. Cassin sparrows are known for their melodious call, given on the upswing in their swooping flight pattern. An unmarked breast, dark tail, and delicately-streaked crown identify the Cassin sparrow.

Only two specimens of the black-throated sparrow have been found in Kansas. One of these was identified in Finney County, near Garden City, the other in Morton County. Kansas is on the northeast edge of the black-throat's range. A dark mask, which extends in a "V" down the breast, is broken only by white bands above and below the eye, giving black-throats a mock executioner's hood.

As its name implies, the sage sparrow thrives in the sandsage prairies of western Kansas. This sparrow is a winter resident, with sightings from Morton and Seward counties during November, December, and January. Its thick body and rapidly-flicking tail help distinguish it from the black-throat, which bears similar face markings.

Chipping sparrows nest in eastern Kansas and may be abundant during migrations. They lay four eggs in May or June and leave the state in October or November. Chipping sparrows favor woodland habitat, but may frequent lawns as well. Two keys for identifying the chipping sparrow are a definite white eye stripe and a striking gray rump.

The distinct, low-pitched call of the clay-colored sparrow is more like that of an insect than a bird. A common transient, the clay-colored sparrow may even nest in southwest Kansas. Rich brown plumage on the cheek and rump of the clay-colored sparrow distinguishes it from the similar chipping sparrow.

Brewer sparrows are frequent summer visitors to Kansas, preferring open shortgrass prairies, like the Cimmaron National Grasslands. A subtly-streaked crown and slight build are clues in the difficult field identification of this sparrow.

The swamp sparrow would be an unexpected backyard visitor, unless a homeowner happened to have a fish pond overgrown in cattails and rushes, or a thick brush pile. Uncommon in Kansas during winter, swamp sparrows are frequently seen in the eastern half of the state during spring and fall migrations. These birds are often mistaken for the more common tree sparrows, but have a distinctive white throat and gray eye stripe.

Field sparrows are highly gregarious, living in colonies in the brushy borders of Kansas pastures. Commonly seen in spring, summer, and fall, field sparrows emit a harmonious trill. The legs and bill of field sparrows are pink. A brown cheek patch sets this species apart from the tree, chipping, and swamp sparrows, which all have similar rusty caps.

Lincoln sparrows rarely spend time far from the ground. They are common transients and easily attracted to backyard feeders by seed sprinkled on the ground. Lincoln sparrows have a long, rounded tail, gray face, and buff-colored breast band.

The song sparrow is a secretive winter visitor in Kansas. It requires dense cover near marshes and streams and may infrequently nest in northeast Kansas. Its heavily-streaked breast and orange rump and tail are keys to identification.

Only one Kansas sighting has been recorded for the golden-crowned sparrow. This bird isn't known to inhabit the state at all, being most common in western coastal states. Golden-crowns often congregate with white-crowned sparrows, but they are easily recognized by their bright yellow cap and dusky beak.

Certainly, most of the twenty-six species of sparrows found in Kansas are too similar for a casual observer to distinguish. However, given a little study, each one emerges as a distinct individual, lending its own unique character to the Kansas outdoors. Obscure in reputation only, sparrows are truly one of the Sunflower State's great treasures.

Gene Brehm photo

Gene Brehm photo

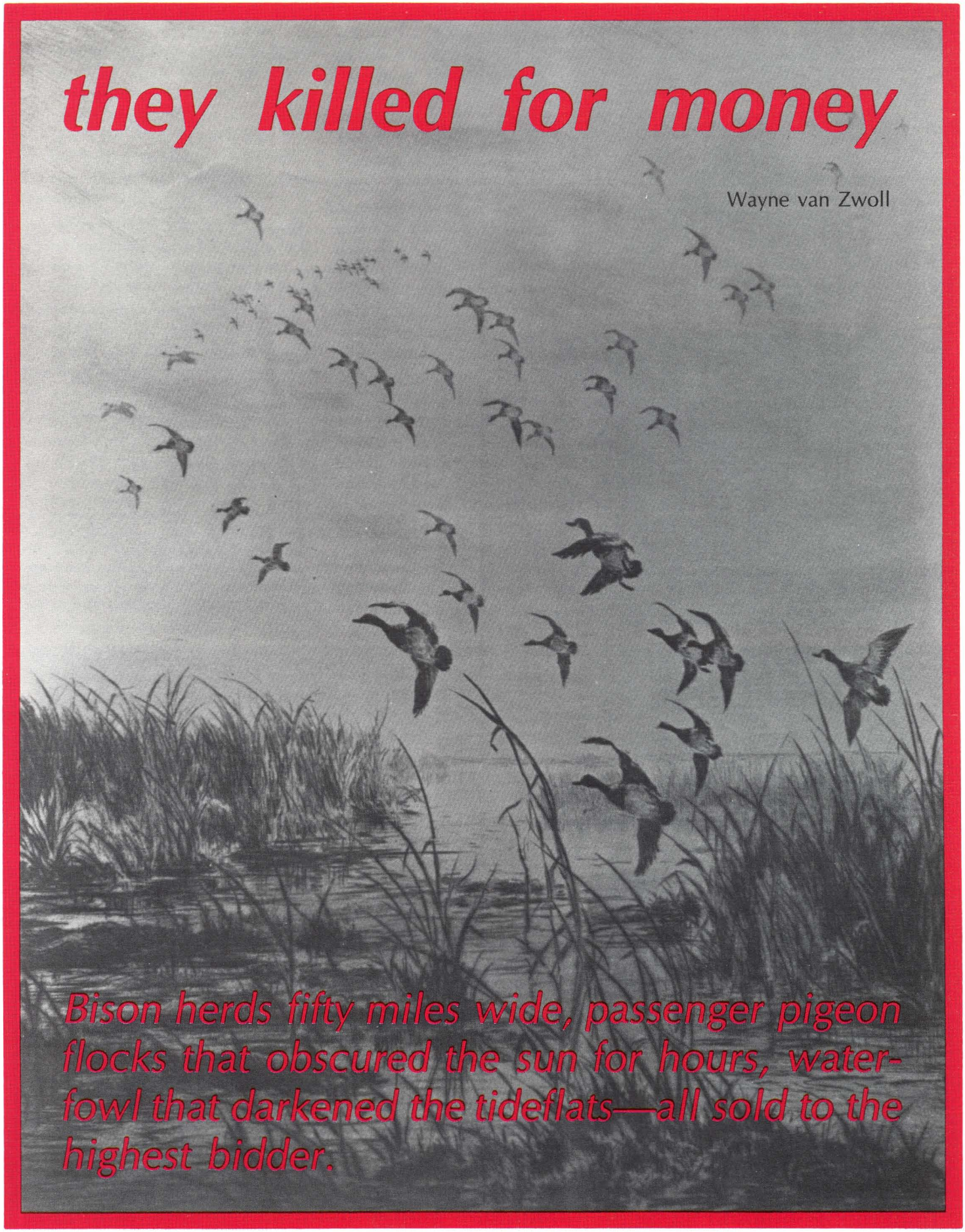
*Counter-clockwise from top: The white-crowned sparrow has distinctive head markings and frequents open habitat. Chipping sparrows sport a white eye stripe and gray rump, nest in eastern Kansas. The buff breast band of the Lincoln sparrow distinguishes this common state resident. Song sparrows are winter visitors in Kansas, their heavily-streaked breasts blending with the dense marsh cover they prefer.*

Gene Brehm photo

Gene Brehm photo

# they killed for money

Wayne van Zwoll



*Bison herds fifty miles wide, passenger pigeon flocks that obscured the sun for hours, waterfowl that darkened the tideflats—all sold to the highest bidder.*

The walnut of the Sharps was worn smooth, and blackened by oil around the tang. Its numerous scars were like those on the weathered face of an old buffalo hunter: evidence of times and trials that cannot be relived. And, like the hunter's face, it glowed with a haggard, yet powerful warmth.

The heavy, half-octagon barrel was shiny, its blue long since faded. Traces of case coloring still showed on the massive receiver, though, and the well-oiled breechblock clacked home with authority. Bloodied, sweating hands had, over time, rounded the corners of the breech and operating lever; the serial number was faint. But as the gaping chamber walls caught a glint of sunlight, I saw beyond them the sharp, even spiral of rifling kept clean.

This rifle had driven forty-five-caliber bullets into a thousand bison.

Shooting is like tennis to most of us. It is a sport, a leisure activity, recreation. Even the hard-core competitive shooter admits he indulges primarily for fun. Surely, a handful of elite marksmen are stabled on military shooting teams; and a scattering of top-flight scattergunners earn money in clay bird competition, the only trigger game that pays even a small purse. But with the notable exception of defensive handguns, privately-owned firearms in the U.S. today are sporting goods.

It was not always so. A surprisingly short time ago, some smokepoles were full-time money-makers, tools to be used hard every day. Their owners were market gunners, whose business was mass slaughter. These people killed for money, shipping the harvest of marsh and field to restauranteurs and clothiers, packing meat and hides in barrels, spending the proceeds on ammunition, salt, and the latest rifles and shotguns.

*Roland Clark (1874-1957) penned many fine waterfowl sketches. This charcoal is one of them; another became the face of the 1938 duck stamp. Waterfowl were once harvested in untold thousands by gunners whose only incentive to kill was cash.*

At a time when wild animals were viewed as simply a source of food and garments, this business of killing creatures in wholesale numbers was a logical response to market demands, a way to make a living. Those who shot to fill boxcars did not do so for fun; it was hard, bloody work and, even to the most callous of marksmen, ultimately repugnant. One successful rifleman, who shot big game for the railroad in Colorado, quit after only a year, observing that he could no longer kill without feeling ashamed.

The havoc wreaked on native wildlife populations by market gunners in the last quarter of the nineteenth century is incalculable. It was then that commercial hunters were most numerous, armed for the first time with breechloading weapons, and mobile enough to penetrate nature's last bounteous strongholds. But killing for profit came early to the North American continent. Indians were the first market hunters, shooting game for settlers in return for beads and other baubles. The red man's bow was more efficient than early muzzleloaders in taking many species, and the whites were quick to sense a bargain.

Concurrently, Scandinavian fishermen were reaping an incredible harvest of fish off the Labrador coast. Their bait? Diced auk. The great auk, a trusting, flightless bird, did not survive long. In 1840 a Danish skin collector accounted for the last living specimen.

The French also found a glut of wildlife wealth in the new world and immediately took advantage of it. In 1607, 25,000 pelts—mostly beaver—were shipped to Europe from French trading posts in the Northeast. As early as 1700, beavers had become scarce, prompting trappers to push westward in search of furs.

In 1620 an Englishman by the name of Thomas Morton established his own settlement in what is now Massachusetts. He and a loyal gallery of rogues lived off the land, established friendly relations with the Indians, and sent the down from wild geese and swans to the mother country where it was in great demand. His straight-laced Puritan neighbors, however, took exception to his lifestyle and tried to stop it. Imprisoned twice in England, Morton returned, only to be driven north, finally, to Maine, where he died a poor man. In many respects, Thomas Morton was our nation's first identified market hunter.

In the meantime, other explorers were penetrating our continent from the southwest. Garcia Lopez de Cardenas mounted an expedition from Coronado's base in Mexico and, in 1540, headed north. He discovered the Grand Canyon, turned east to Texas, and eventually made his way into Kansas. On this route he encountered great herds of bison.

No one has even a close approximation of the numbers of bison extant in North America prior to white civilization here. Estimates range from sixty to a hundred million. At the same time, only about one million Indians inhabited the continent; and half these experienced little contact with bison. Though he took what he could, the red man had virtually no effect on bison populations prior to the introduction of the breechloading firearm. And by that time other factors had sealed the fate of these great, shaggy beasts.

Early in the nineteenth century, white settlers were rapidly permeating the deciduous forests of the East, clearing land and hunting wild beasts for food. The woods bison was an easy target; by 1820 bison were, for all practical purposes, exterminated east of the Mississippi River. Still, so many roamed the western plains that no one of that period could have imagined their end.

Market hunting for bison started

almost before shipping points had been established. In 1832 American Fur Company posts in the Dakota Territory sent 43,000 bison hides to market terminals in St. Louis. Just eleven years later, John James Audubon was to hunt the great bovines of the plains and record his concern for their welfare. His insight was surely exceptional.

Between 1840 and 1860 the population of the U.S. doubled, accelerating westward expansion—and the decimation of bison herds on the Great Plains. Abruptly, the Civil War demanded different, even more barbaric uses of powder and ball, giving the bison a temporary reprieve.

Railroad construction following the war created a gigantic new market for bison meat. "Buffalo Bill" Cody contracted to supply the Kansas Pacific Railroad with fresh meat in 1867, and in the next 18 months he killed 4,280 bison. Most of the flesh went to feed rail crews, but some was also used as dining car fare and became very popular with travelers. Later, demand for the hides pushed their price per pound up to that afforded the better cuts of meat. Market hunters found it was much easier to handle, preserve and ship the hides; subsequently, the plains were often littered with the rotting, skinless carcasses of bison. On occasion, only tongues were removed from the kills. A restaurant delicacy, these were salted and packed in barrels, then shipped east.

Still, the bison remained—vast, seemingly endless herds that crowded the valleys, dotted the barren plateaus, and flowed like mighty chocolate rivers through passes in the hills.

In 1871 Colonel R. I. Dodge recorded a herd of bison occupying an area of a thousand square miles near the Arkansas River. The animals fronted a fifty-mile stretch of prairie twenty miles deep, prompting the colonel to estimate herd numbers in excess of four million. In that same year, five million bison were shot for market, making it the most destructive period in the history of the species.

The end approached with the sudden swiftness of a Sharps bullet. Completion of rail lines in the south opened new territory for market hunters and facilitated shipments of meat and hides east. Soon the northern herds were all that remained. These were doomed on June 25, 1876.

George Armstrong Custer wasn't thinking of bison that day, though briefly he may have wished he'd gone hunting instead of soldiering. When the last of his 267 recruits fell to the Sioux on the hills above the Rosebud and Little Big Horn Rivers, it marked the end of an era. The red man had won a battle but had lost his place as an aborigine. From that point, he would adapt to civilization or perish. To ensure his defeat, the whites would cut off his lifeline: the bison.

Generals Grant, Sherman, and Sheridan knew the dependence of the Indians on bison, and they used their influence to nix conservation measures aimed at preserving remnant herds. Northern rail lines and market hunters finished the job. By 1881 only token bands of bison remained.

Killing for money did not stop with the decimation of the bison. While big Sharps breech-loaders were piling the plains with carnage, hunters in the East were shipping barrels of waterfowl and passenger pigeons to market. The heath hen, an eastern race of the prairie chicken, had already succumbed to such slaughter.

Passenger pigeons, once so numerous that the weight of settling birds would break roosting trees two feet in diameter, were completely gone by 1914—this, despite efforts at the turn of the century to save the species. Apparently large numbers of the birds were necessary to stimulate nesting; once the flocks diminished beyond a certain point, recruitment just couldn't match attrition.

How effective were the pigeon hunters? Well, in 1806 ornithologist Alexander Wilson recorded a flock over Kentucky's Green River that was a mile wide, forty miles long, and contained, by his estimate, two and a quarter *billion* birds! (Assuming each pigeon ate half a pint of acorns daily, the food needs of such a gathering would amount to 17,432,000 bushels a day!)

Audubon found a roost site in Wisconsin that was forty miles long and three miles wide, another that strung for a full hundred miles. In 1875 a roost on New York's Beaverkill drainage was destroyed by pigeon hunters. Fifteen tons of ice were required to pack the birds for shipment. Three years later the last great nesting colony of passenger pigeons was found near Petoskey, Michigan. Twenty-five hundred pigeon hunters descended on the roost, marketing over a million birds in a matter of weeks.

Relatively few passenger pigeons were shot. Instead, poles were used to knock them out of the air when mass flights were low enough. Smudge pots beneath roost trees asphyxiated some. Clubs claimed others under the glare of kerosene lights. But perhaps the most effective tool of the pigeon hunter was the net. Originally fish nets were employed, but soon these were modified by pigeon specialists, who made some truly remarkable catches. The biggest single haul recorded was by a Michigander who captured 3,500 birds with a single spring of his net.

Snowy egrets were another target for market hunters. Now, it may have been some time since you contemplated stuffed egret for Thanksgiving dinner, and most people would rate it a distant second even to leftovers. But the egret's gaudy white plumage caught the fancy of the hat trade in the 1880's, creating a lucrative market for egret hunters. Well-trussed socialites who would balk at the sight of someone beating a recalcitrant

mule were directly responsible for the slaughter of tens of thousands of egrets—responsible, but nicely shielded from the effects their fashion whims were having on the birds.

In response to the alarming decline in egret populations, the Audubon Society prompted legislation to curb the sale of egret plumage. But the end came hard. Not until two Audubon wardens were killed on refuges did market hunting for these birds cease.

Among the best-remembered and most efficient of market gunners was the waterfowler of the late nineteenth and early twentieth centuries. By this time, ducks and geese were the only marketable wildlife remaining in large enough numbers to sustain commercial hunting. The bison was gone; other big game animals had become savvy to the centerfire rifle and its capabilities. Settlements proliferated where once wild creatures had lived undisturbed. The passenger pigeon, wild turkey, and many shorebirds had been shot down to token populations. On the eastern seaboard a new kind of slaughter was beginning. . . .

*A pile of bison hides awaits shipment at a Kansas depot in 1874, the peak of the bison-hunting era. By 1881 the great beasts were, for all practical purposes, gone.*

*Photo courtesy Kansas State Historical Society*

Until 1600, the matchlock and wheellock were the only ignition systems used on firearms. The advent of the flintlock in the seventeenth century made ignition faster and more reliable. Still, it was not until the percussion cap was perfected around 1825 that waterfowl guns became truly effective. Exposed priming absorbed moisture readily, rendering a gun useless. Caplocks could withstand considerable exposure to salt spray and river fog without compromising dependable ignition.

Another milestone came in 1855 with the advent of the double-hammer breechloading shotgun. This development made smoothbores even more weathertight. It was followed in 1871 by the introduction of hammerless strikers, in 1900 by the replacement of black powder with smokeless. Waterfowling would never be the same.

Market hunters with duck contracts operated mainly on the East Coast, though other flyways were also hit. Probably the most heavily shot were the salt marshes and tide waters of Maryland and Virginia. Here hunters used an amazing variety of techniques to fill their packing barrels with birds.

Corn was used universally to bait waterfowl, either to the gun or into chicken-wire traps. "Tollers"—tame ducks and geese, or crippled wild birds nursed back to health—were employed as live decoys to lure flocks of migrants into shooting range. Night lights—generally kerosene lanterns with reflective backing—were installed on swift, nimble skiffs that were hand-paddled into flocks of feeding ducks after dark. The sinkbox (or battery box), a coffin-like affair weighted with iron decoys so it floated with virtually no freeboard in the middle of a decoy spread, allowed a gunner to repose comfortably while waiting for his targets to swing into range. These and other devices were used to harvest ducks wholesale. But it was the development of firearms during this period that facilitated the astounding kills of turn-of-the-century waterfowlers.

At first, cap-lock smoothbores were simply used as shoulder arms to cut swaths in rafts of feeding ducks. Wingshooting was not a viable technique, given the slow lock times of caplock weapons, and was rarely employed even by sportsmen until the self-contained cartridge made its debut.

Many of the first market hunters were old salts who'd spent their lives at sea and were used to handling boat cannons. It wasn't long until they concluded that bigger shotgun bores could accomodate more shot and so mow down more ducks with one blast. And since black-powder muzzleloaders were single-shot weapons at best, it was only good business to make the first discharge as devastating as possible. Thus the big gun, or punt gun, was born.

Punt guns were of various sizes, but a respresentative specimen weighed about 125 pounds with its twelve-foot barrel and two-inch bore. Upwards of a pound of shot was used in this fowling piece, and prodigious quantities of black powder. The loads for such guns

were worked up in winter by firing into snow drifts with ever-increasing charges. When unburned powder started showing up in the drift, that charge was considered maximum for the gun.

Obviously, such a cannon was not a shoulder arm. It was typically mounted in two chocks in the center of a narrow, flat-bottomed skiff about eighteen feet in length. The muzzle protruded over the bow. Its stock, a heavy chunk of walnut, was often anchored by rope to the craft. Bags of sawdust or oats—and, later, springs—were used to absorb recoil. The shooter lay beside the gun and propelled his skiff with short hand-paddles toward rafts of feeding waterfowl. At the appropriate time, he triggered a blast that would leave the water dotted with dead and dying ducks.

Contrary to what many believe, nails, glass, pebbles, and other debris were almost never used in punt guns. Such fodder would quickly ruin a barrel. Besides, shot was only six cents a pound, powder ten. A single canvasback would bring two dollars, a black duck half that, and many birds could be taken with one shot.

How many? Well, one party, equipped with four skiffs, surrounded a raft of redheads and, firing simultaneously, killed 419 almost instantly. That was an exceptional harvest, however, and fifty ducks at a single blast was considered a good take. A profitable one, too, as just two bushels of corn a day could bait a thousand divers to the gun. Pickup men could be hired cheaply, if need be, and there were few other expenses. Occasionally a gunner would splurge and outfit his skiff with ice runners so he could extend his hunting season.

But big guns rapidly fell into disfavor with the sporting public. Soon there was a push to make them illegal. Market gunners couldn't hide these cannons well and sought other ways to reap nature's bounty. One solution was the battery gun, a series of barrels arranged in the bow of a skiff like so many deadly fingers—almost parallel but spread just enough to spray a ten-foot pattern at thirty yards. It was actually more deadly than the punt gun at short yardage, though the latter was favored for long shots.

The battery gun employed up to a dozen twelve-gauge barrels, though sets of four four-gauge and three two-gauge tubes were also popular. Simultaneous ignition was achieved via a tube or trough running laterally from the frizzen or nipple of one barrel to the breechplugs of the others. Some gunners even built two decks of battery guns on their boats.

Accidents with battery guns were common. One could not always tell if every barrel had discharged. Reloading, then, would double-charge an unfired tube. One such incident resulted in a blown gun that fragmented its retaining straps and broke five teeth and the jaw of the shooter, who then drifted three miles before regaining consciousness.

But these multiple-barreled meat-getters were effective. A single boat once collected over a thousand ducks in one day, sold them, and had them on their way to New York by dawn of the following morning. Because of their lethality, battery guns were soon to follow the punt gun into the annals of history.

Still, the commercial waterfowl hunter was not contained. In fact, the turn of the century marked the development of several things that would make him even more deadly. The first was the widespread use of smokeless powder in steel barrels that would handle its increased pressures. The second issued from the genius of a mild-mannered inventor named John Browning.

Browning's ideas revolutionized the firearms industry in this country—for both military and ci-

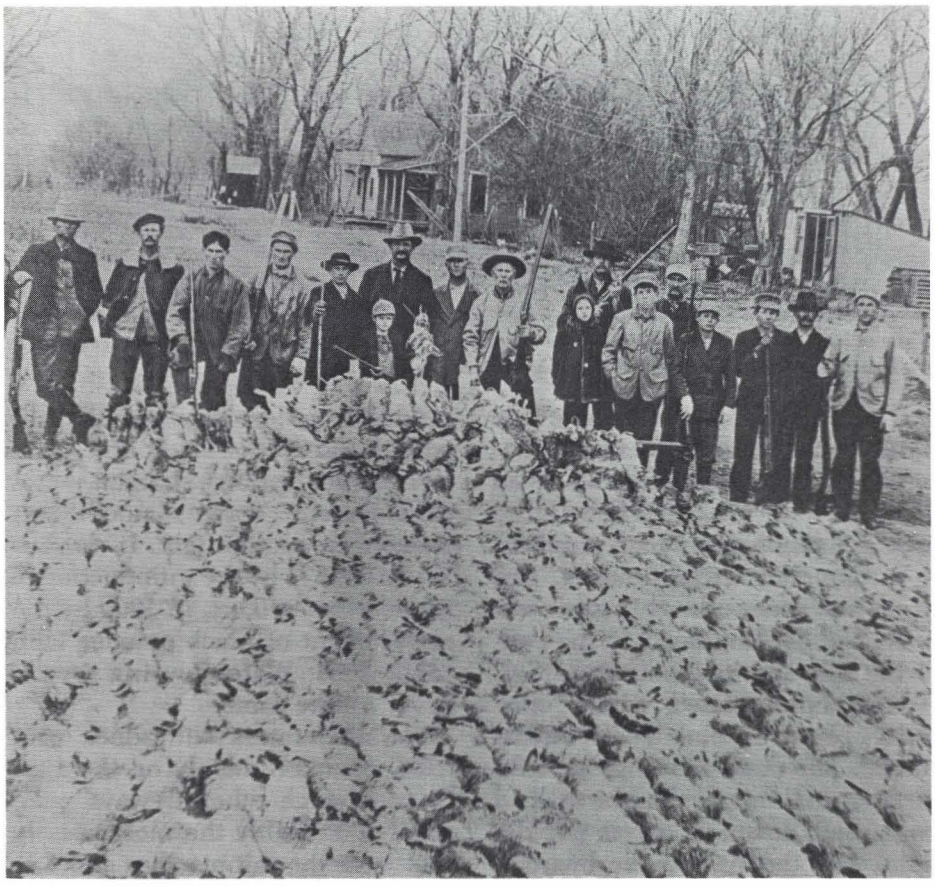


Photo courtesy Jack and Dorothy Grier

***Over 600 jackrabbits were shot by this Kansas crew in one day around 1906. Wild rabbit meat was a marketable commodity here, even into the 1940's.***

vilian gunners. Waterfowl hunters latched on quickly to the Browning-designed Winchester 97 pump and Remington 11 autoloader. Extension magazines were added to increase shotshell capacity from five to eleven. Choke boring harnessed the firepower and increased shot velocity of these shoulder arms, making them incredibly efficient duck-killers.

Wingshooting was now possible and, for the first time, eminently practical for the market hunter. A good shotgunner in a sinkbox usually carried two guns; and the shooting was often so furious he'd keep the muzzle of one dipped in water to cool it while he unloaded the other at passing waterfowl.

Atley Lankford, among the most famous of early waterfowlers, routinely killed 200 ducks a day and could have taken more, had he been able to carry them. He averaged close to 10,000 waterfowl a year, probably shot over half a million during his lifetime. His battered M11 Remington, on which he hung a new forearm every season, accounted for around 35,000 ducks—quite possibly more than any other gun has ever taken.

Plentiful waterfowl and a good market spawned a generation of fine wingshots. Among these was Lloyd Doxie, who once killed 155 ducks with his Browning Auto-5—between three P.M. and sundown! A compatriot, Van Griggs, retrieved 518 ducks after expending 600 shells. That's good shooting, but not quite as impressive as Luther Parker's 568/600 score.

Not only the market gunners, but sporting clubs as well, accounted for many thousands of ducks. Some clubs used forty to one hundred *tons* of corn annually as bait, supplied shells to the tune of ten *cases* daily. On one club shoot, 76 canvasbacks fell in fifteen minutes.

After the turn of the century, people became more aware of the vulnerability of our natural resources and realized that harvest regulations were necessary to ensure the survival of wildlife species. State wildlife agencies were staffed and mandated to protect and preserve the resource. The Lacey Act of 1900 prohibited interstate commerce of illegally-taken wildlife. It was a new era.

But in ensuing years, as punt guns gathered rust and game managers struggled to rebuild devastated wildlife populations, other markets opened to those who would kill for money. Relegated to the status of outlaw, paid gunners operating after World War One have nonetheless severely impacted many native wild creatures, among them our national bird.

Originally considered predators, bald eagles were not afforded total protection until 1940—protection denied golden eagles until 1962! As tardy as such action seems, however, it wasn't until 1981 that penalties for illegal trafficking in eagle feathers became stiff enough to be considered a deterrent. Now illicit commercial trade in any animal valued over 350 dollars constitutes a felony, punishable by substantial fines and prison sentences.

What is an eagle worth in today's black market? Well, a single feather can bring a hundred bucks. Full-length double headresses have fetched ten grand from collectors who apparently don't care that the plumage on Chief Beaming Possum's 1876 war bonnet was donated by an eagle shot from a 1982 pickup.

Bonafide Indian tribal members may still possess eagle feathers. Collectors can, too—provided the plumage was acquired prior to the date the bird was given protective status. Eagle feathers and body parts may not be sold or bartered. No one, of course, may kill an eagle without a federal permit—which is about as easy to procure as an invitation to a meeting of the Joint Chiefs of Staff.

Still, the shooting continues. It is not market hunting in the sense that market hunting was once an accepted occupation. Today it is poaching. And such activities aren't limited to eagles.

Venison is a game dish to most of us, but a marketable commodity to the unscrupulous. Big antlers, too, have a price. These are sought by collectors of record-class game and those who find a warped satisfaction in displaying as their own trophy an animal taken illegally by someone else.

One of the most recent drains on our wildlife resource is the demand for claws, teeth, and gall bladders of bears. Claws and teeth, like the talons of raptors, apparently transfer enough masculinity and charisma to the owner to offset the risk he runs of being implicated in illicit trafficking of wildlife. The gall bladder, like rhino horn, has long been considered an aphrodisiac in some cultures. Now this organ is sought—by Asians especially—for its purported medicinal qualities. Big prices for the bladders have lured even sport hunters into the dangerous web of black marketing. In a recent California sting operation, it was found that over 700 of the state's houndmen were involved in the illicit selling of bear parts.

A nineteenth-century shotgunner, up to his duck call in barrels of salted mallards, would have laughed if you'd suggested he hang up his twelve-gauge Model 97 and hunt reptiles. But today even snakes are big business. No, the merchandise is not usually delivered dead; still, trafficking in live reptiles removes the creatures from their natural habitat just as effectively as would killing them, and is therefore illegal.

Recently an 18-month undercover investigation by 200 U.S. Fish and Wildlife Service agents and other law enforcement officials revealed an astounding array of live contraband being garnered from all parts of the U.S. Many were destined for overseas ports, primarily in Europe and Japan. Search warrants were issued for 45 locations in 14 states, resulting in the arrest of 27 individ-

uals. No organized ring, those apprehended included zoo employees, policemen, teachers, businessmen, bankers, a sheriff, an attorney and a mortician.

To infiltrate this group of independent operators, undercover agents established the Atlanta Wildlife Exchange, a wholesale reptile business where they executed—and tape-recorded—nearly 10,000 transactions, all involving illegally-captured wildlife. Over a thousand animals of fifteen officially endangered species passed through the Exchange.

Some of the critters bought by the agents were less than attractive as pets. Included were copperheads, water moccasins, two thirteen-foot pythons, Gila monsters, and fifteen species of rattlesnakes. In all, over 100,000 venomous and non-venomous serpents were shipped via U.S. mails last year. Masking tape was commonly used to silence the tail vibrations of rattlers. The scarcity as well as the appearance of each species seemed to dictate its black market price. The colorful and docile California mountain kingsnake was a favorite at about $150 a specimen. A Texas graybanded kingsnake would bring $200. Snapping turtles sold for about $35, the trans-Pecos rat snake for $75. You could have your very own Gila monster for $200.

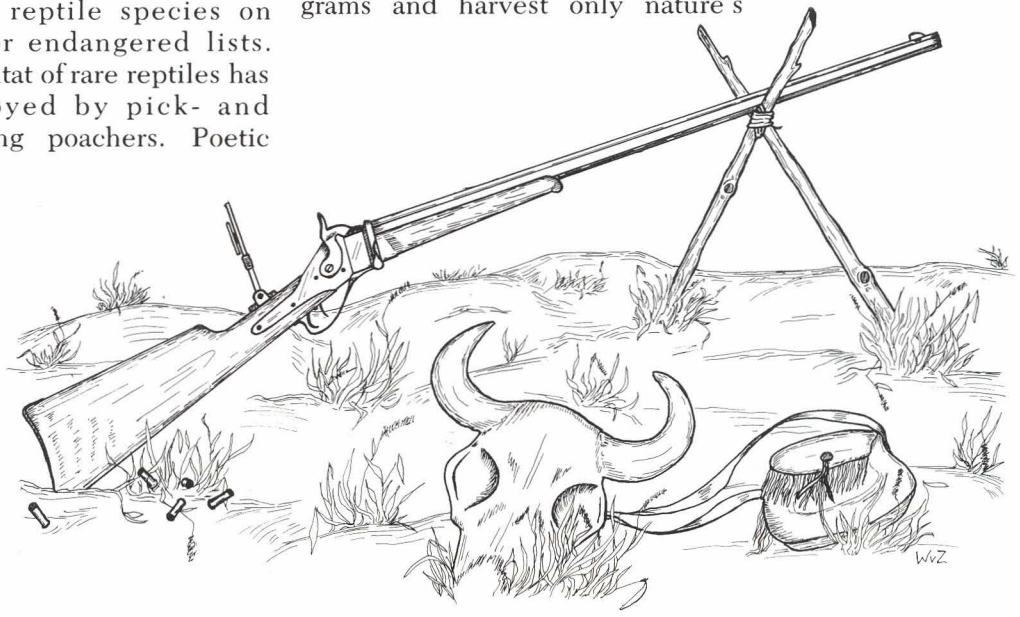
Illegal collecting for black market sale has been responsible for putting several reptile species on threatened or endangered lists. Often the habitat of rare reptiles has been destroyed by pick- and shovel-wielding poachers. Poetic justice has occasionally been served—notably in New York City, where Bronx Zoo Curator John Behler shakes his head at human naiveté. "We've acted as consultants for reptile-bite cases involving puff adders, cobras, saw-scaled vipers, and a host of rattlesnakes. People just don't know what they're doing."

Knowing what we're doing is a deceptively simple requisite, not only for survival, but for ensuring that generations yet unborn will be able to savor the natural beauty of this planet. Market hunting, once an accepted livelihood, is now a crime. Too late, time brought us an awareness of the folly of merchandising wildlife. It will spare us the puzzled expressions of our descendents when they read of creatures extinct, places desecrated that were in our power to save.

Those who killed for money in the nineteenth century did so to meet a need. They operated within a society that could not predict the consequences of their actions and didn't bother to try. Under such circumstances, these hunters were no more guilty of criminal intent than the women of their time who wore egret plumes in their hats. Modern sportsmen who contribute license moneys to game management programs and harvest only nature's surplus are not more righteous than their ancestors—only somewhat wiser. And the lessons came hard.

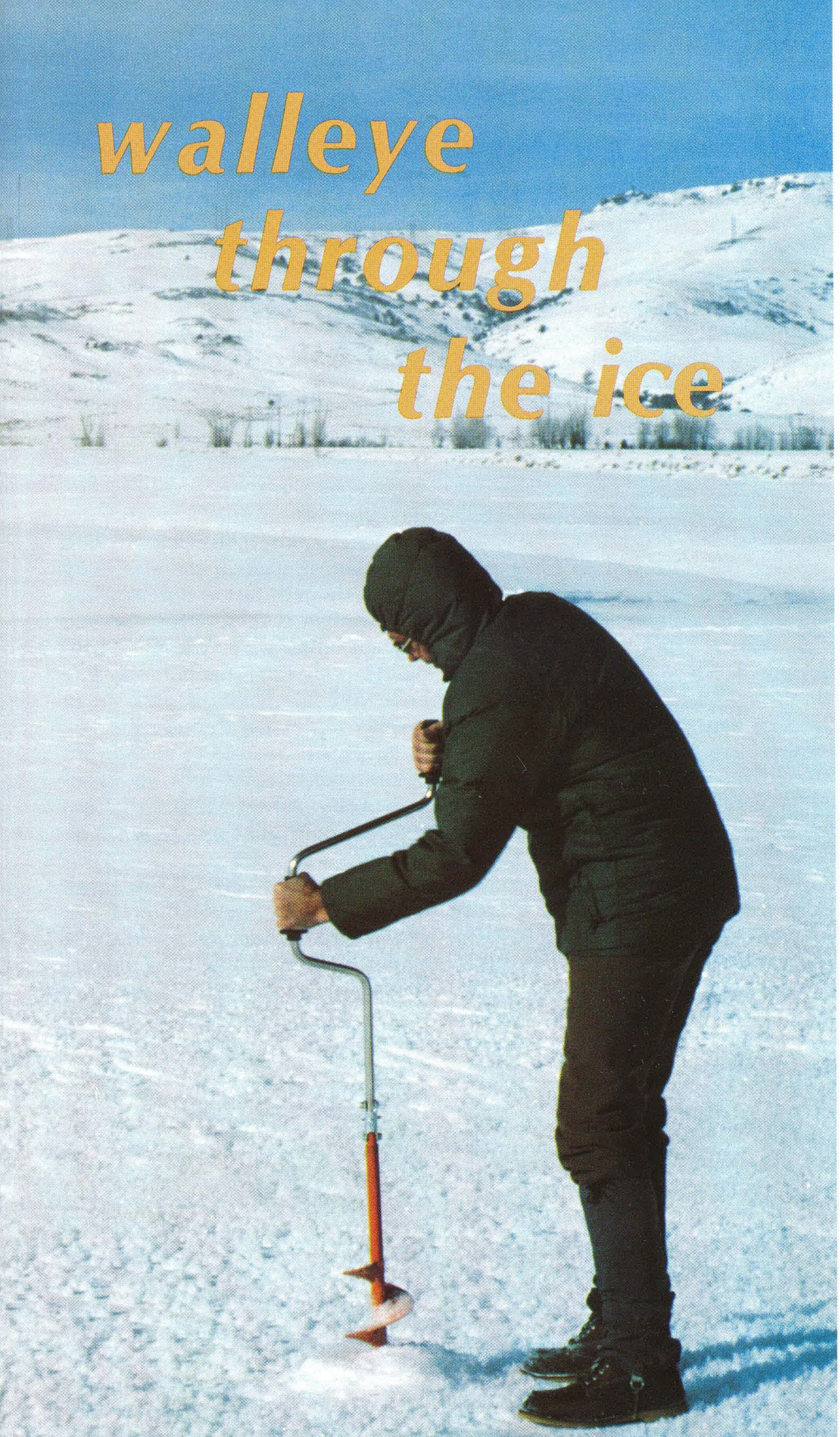
History in the making is not insightful. Only future generations can judge our actions, just as we alone are able to evaluate those of generations gone before. Perhaps right and wrong are irrelevant terms to our existence here—except in a trivial legal sense. But good and bad can be perceived.

Yes, we can all live without the passenger pigeon. But the world is poorer for the absence of those great flocks. And Homo sapiens—man the wise—should have enough background now to know that conservation—wise use of his natural resources—is the only *good* way to deal with the world around him. If the destruction wrought by market hunters was tragic, it should also be instructive. Like the bison hunter, the pigeon netter, the waterfowler behind his punt gun, we cannot see exactly what consequences our actions will bring to our grandchildren. But unlike the wholesale killers of the 1800's, we *should* know enough to care. For only by caring will we find answers to our resource dilemmas. Only by caring will our decisions bode well for future generations. And only by caring will we ourselves rise, in conscience and substance, above those forebears who killed for money.




*Wayne van Zwoll illustration*

# walleye through the ice



## A walleye expert shares his wintertime secrets.

Mike Cox

Gary Brehm photo

It's a steely ten above zero, and the wind is howling. Frozen cinders of snow whip by the window. Time for a hot cider and the fireplace? Not for a dedicated ice angler. He knows it's walleye weather!

Ice fishing specifically for walleye is not only challenging; after the proper technique is mastered, it can be very productive. The first step to flaky filets, however, is finding the fish. Walleye prefer specific habitat. Identifying that habitat will enable you to home in on concentrations of these toothy predators. Mounds, rock outcroppings, and other promontories in 12 to 20 feet of water are the best places to start looking. Once you locate a group of fish, it's important to note the time of day, as well as the location and ice conditions. You can return to that spot day after day at the same time and expect to catch walleye. Chances are also good that such a location, fished at appropriate times, will produce walleye in years to come. And good habitat nearly always holds several fish within catching distance of one ice-hole.

Winter walleye tackle need not be elaborate to be effective, but a few fundamentals should be kept in mind when selecting gear. The rod itself should be compact, maneuverable. I use a short, medium-action stick about two feet long. The rod should extend the entire length of its handle, providing optimum sensitivity and control under cold conditions. An inexpensive open-face spinning reel with 12-pound-test line works well for me. Closed-face reels tend to ice up when the air temperature is below freezing. I remove all grease from my spinning reel and let the gears work dry. The grease will become stiff in cold weather, making cranking difficult.

Opinions differ on the best winter bait for walleye. I prefer a 3/8- or 1/2-ounce silver Kastmaster dressed with the eye of a fish (walleye or crappie). The use of an eye sounds strange, but it works much better than jigs or live bait, probably acting

as a scent attractant. Yes, I've fished with minnows, jigs, worms and a variety of artificials; but none has produced the results of the Kastmaster-eyeball combination.

I attach the Kastmaster to the line using a snap only, because a swivel will kill the action of the lure. Eyes are taken from fish of under two pounds, as excess weight on the hook will also hinder the action of the Kastmaster. After setting up on the ice, I lower the bait to within six inches of the lake bottom. Next, I raise my rod tip a foot or two above the hole and drop it quickly. The Kastmaster will glide to the side of the hole and start to flutter back to a vertical position. Once the lure returns to its initial location, it will spin, so I hold the rod still at this point, anticipating a strike.

After waiting 30 seconds or so, I repeat the jigging action. A hit will come as the Kastmaster is fluttering down or when it is spinning directly under the hole. Sometimes the strike is quite hard, while at other times it only feels like a slight "peck." In either case, I jerk as quickly as I can. A second tap on the line means the walleye just spit it out and the lure and bait must be reeled in for a check.

Though jigging with my Kastmaster-eyeball combo is not a new technique, many Kansas fishermen are still unaware of its potential. Max Seale, now a retired Iowa Conservation Commission employee, taught me how to use it. As a part-time fishing guide, Max logged many hours on the water—and ice—and knew as much about walleye as anyone I've ever met. When he talked fishing, I listened.

My first attempt at using this technique on Kansas walleye brought not a few stares. When I arrived on the frozen north shore of Webster Lake with my spud-bar, pole, and bucket and struck up a conversation with a couple walleye anglers, I was just another fisherman. But when I asked if I might garner the eyes from their catch, they suddenly stopped telling lies. That, if you're an angler, is a sure sign something is wrong. Perhaps they thought I collected fish eyes. Or ate them.

"Uh, sure. Take 'em all." They looked at me as if I might pass some contagion their way. I left.

A short distance from the fishermen, who were still watching me intently, I chipped a hole in the ice. My first jigging efforts netted me only brush, so I moved a few more yards, being careful to stay on the same bottom contours that had yielded my new friends their catch.

Half a dozen jigs later, I heaved a flopping 3 1/2-pound walleye up through the hole and onto the ice. Down went the bait again, and within ten minutes I had another fish. Warily, the two anglers approached. They shuffled their feet on the ice for a minute. Finally, one blurted out. "Say, mister, d'you suppose we could take a couple of those eyeballs?"

Proper clothing is essential when you're going ice fishing. Warm footwear is especially important. I prefer Canadian rubber-bottom pacs with felt liners. The felt, besides insulating you from the cold, absorbs sweat when you're walking. It's a good idea to buy a couple such liners. That way, one pair can be drying while the other is being used.

You'll do well to dress in layers, so that you can add or delete garments on the ice and adjust your insulation to the air temperature. I generally don a wool shirt, insulated windbreaker, heavy jeans, insulated coveralls, wool gloves and mittens, and a heavy, fiber-filled parka with hood. I look like a mummy when fully decked out, but I stay warm.

A life jacket is essential to ensure safety on the ice. Many people include a vest-style life jacket on their clothing list. I carry a flotation cushion instead. It makes a great seat-warmer while fishing atop a five-gallon bucket.

Ice should be tested thoroughly before it's considered safe for fishing. I prefer a three-inch minimum thickness and shy away from heaves, stress fractures, areas of dark-colored ice. Melting and refreezing will not only change the structure of ice, but its ability to support weight as well. Black ice, honeycombed with air pockets, is especially hazardous. It's a good idea to steer clear of questionable ice, to use your spud-bar to chip test holes in areas where you're unsure of ice thickness.

Though warm clothes will maintain your body temperature under frigid conditions when they're dry, they lose their insulating ability immediately when drenched. And your skin, if soaked, radiates body heat 32 times as fast as it does when dry. Thus, it is imperative that you stay out of the water when ice fishing! Hypothermia (dangerously low body core temperature) can set in quickly if you fall through the ice. Even if you are able to clamor out before your muscles lock up, exposure to chill winter winds will drain your wet body of heat rapidly. So be careful!

Fishing with a partner can make for a safer trip. Should one of you get wet, the other can provide dry clothes and assistance to the nearest shelter. If you like to fish alone, or your buddy has to clean the garage on a day you just know will produce a limit of walleye, make sure someone knows where you are and when you intend to return. That won't keep you from freezing should you fall through the ice, but it will ensure that, if you have car trouble or other problems, you *will* be found!

Winter is, indeed, a great time for crackling fires, good books, and hot cider. But if you're itching to taste the bracing Kansas wind, feel the tug of a toothy fish on the end of a line, or just gawk at nature's frost-laced handiwork from atop a five-gallon bucket, walleye fishing is for you. Proper technique and the right bait, used in good walleye habitat, will put those delectable filets in the pan. Warm clothes and a cautious tread on the ice will make your trip safe, as well as productive.

*Mike Miller illustration*

# the yellow pages

Edited by Rob Manes

# READERS WRITE

## Who pays ?

Editor:

I remember reading in the paper some time ago that the Fish and Game Commission was searching for additional revenue to fund the programs sponsored by the Commission. Proposals for additional funding sources included requiring hunting licenses of American Indians, military personnel, senior citizens, and youths under the age of 16. I would like to express an opinion on this matter.

I am in favor of imposing license fees on American Indians and military personnel. If Indians were forced to live on reservations, then I would oppose this. However, the old rules no longer apply. The Indians of today expect, and rightfully so, to be treated like everybody else. The same housing and employment opportunities must be made available to everyone, including the Indians. So should they bear their fare share of the financing of recreational opportunities.

The same holds true for military personnel. Not only should the same opportunities exist for them, but the same responsibilities as well. As an additional bonus, military personnel have the advantage of expanding their hunting territory by transferring from base to base.

I am against the licensing of the senior citizens and youths. Most senior citizens don't wait until retirement to start hunting. This is something most have done and supported all their adult life. I think they should be given a break along with our thanks.

In regards to licensing youth: You will, in reality, be imposing a double license fee on the parent. Most youths seek employment when they obtain a regular drivers license at the age of 16. This seems to be an ideal time to let them take on additional responsibilty of purchasing hunting and fishing licenses.

Thank you for allowing me the opportunity to express my opinion. I feel that you in the Commission are doing a wonderful job, and hope you will keep up the good work.

Richard L. Ankerholz
Hartford, Kansas

## Disgruntled

Editor:

We came to visit your wheat state opening day of pheasant season only to be very sorry to see all the land planted in wheat. Even the bar ditches are full of wheat! There's nothing left for the pheasants to eat or anything for them to hide in. The thickets were all plowed up, along with all the weed patches! You had sure better talk with your farmers, if you expect any revenue from outsiders. None of your former hunters will return at $40 a head, plus motel rooms, plus eats and drinks, plus all the rest we spend, just to walk out on a field of wheat for miles and miles and spend the whole day just looking for a place the birds might be.

Tom Shirley
Oklahoma City, OK

*Dear Mr. Shirley:*

*We regret that your hunting trip to Kansas was not as successful as you had hoped. However, there are a number of factors that figure into the success or failure of a hunt.*

*One of the most important factors is the selection of a specific hunting location. Although the western half of Kansas is famous world-wide for its pheasant hunting opportunities, some areas are, of course, much more productive than others.*

*Many opening-weekend hunters did report smaller bags than last year; but the 1982 pheasant harvest was an all-time record. Wildlife populations fluctuate in response to annual weather variations and other factors. While preseason surveys indicated the Kansas pheasant population was reduced significantly from last year, pheasants are still abundant in most areas of the state.*

*It is also important to note that a farmer's livelihood depends on the crops he is able to produce. While growers are obliged to be stewards of the land, it is not the place of the Kansas Fish and Game Commission to dictate how they run their operations. Many Kansas farmers are aware of the needs of wildlife and employ sound conservation practices that benefit both wildlife and hunters. The Fish and Game Commission stands ready to assist any farmer who desires to improve the quality of wildlife habitat on his land.*

*We sincerely hope you will return to find the superb pheasant hunting available in Kansas. The state offers more than 200,000 acres of public hunting land, which, together with private lands, supports some of the finest pheasant hunting in the world.*

Manes

## A little courtesy...

*A little courtesy goes a long way in landowner-hunter relationships. A southeast Kansas doctor took the time to say thanks in writing. Consequently he received this written invitation to hunt:*

Dear Dr. Pirotte: Just a note to tell you that the ducks have been landing on the ponds. Just come by the house and identify yourself. We really appreciated your thank you note. That is the first time we have received a note like that.

Clera and Ivan

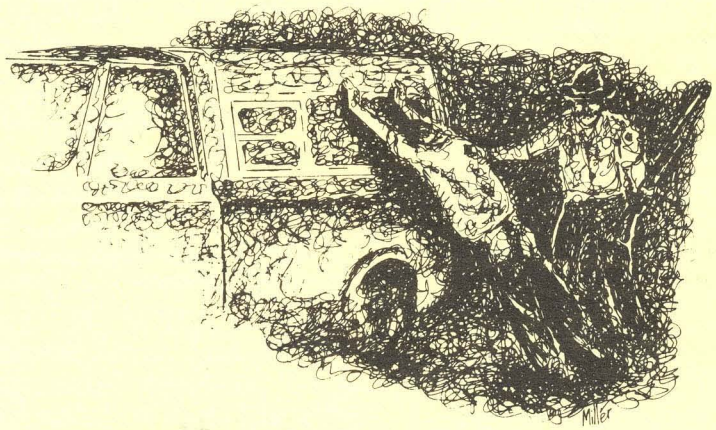
# THE LAW

## Have gun will travel

Preston Brown was a law-abiding citizen when he left his home in Jacksonville, N.C., for a long-awaited hunting trip in Maine. Within 24 hours, Brown had attained criminal status and had spent the night, shackled in leg irons, in a New Jersey jail cell.

Brown's crime was his unfamiliarity with the New Jersey firearm transportation laws. His method of transporting his guns, perfectly legal in North Carolina but illegal in New Jersey, cost him thousands of dollars in legal fees and untold personal anguish.

The level of tolerance toward firearms and firearm owners varies from state to state.



In New York, for example, nonresidents may face a seven-year jail sentence if caught transporting handguns through the state. Rifles and shotguns may be transported in the state, as long as they are unloaded.

An exception to the New York handgun prohibition is made for NRA target shooters. To quailfy for this exception a person must possess a pistol license or firearms registration card, and the gun must be carried unloaded and locked in an opaque container with a copy of the match program, schedule, or competition registration card. Further restrictions apply to the transportation of firearms in New York City.

Nonresidents who plan to stop anywhere in New Jersey while transporting firearms must get a Firearms Identification Card from the superintendent of state police prior to arriving in the state. Nonresidents transporting handguns through Connecticut for competition or exihibition must be residents of the United States and have a valid permit to carry handguns from another state or locality. There are no provisions in Connecticut law for transporting handguns for hunting purposes. If you are carrying a handgun for hunting or any other purpose besides an exhibition or competition, you must obtain a Connecticut permit before arriving in the state.

In Hawaii nonresidents must register all ammunition and firearms within 48 hours of arriving. Rifles, shotguns, and handguns may be carried to target practice or hunting, if the weapons are unloaded and cased or securely wrapped. The guns may only be transported between the recreational facilities or hunting grounds and your accommodations.

More and more competitive shooters and hunters are using commercial forms of transportation, whether it be for a weekend hunting jaunt or an African safari. Here are some general guidelines pertaining to the transportation of firearms aboard airplanes, trains and buses:

When arriving at the airport you must immediately go to the airline's ticket agent and inform him or her that you have an unloaded gun in your bag. Guns to be shipped must be in a hard-sided container or suitcase. If you don't have such a case, the airlines usually sell them at reasonable prices. The ticket agent will check the bag and put it in a part of the plane where it is inaccessible.

Quite a paradox exists when it comes to carrying firearms aboard a train or bus. Federal laws allow firearms to be carried on both types of transportation—but the leading train and bus companies forbid it.

According to a spokesman from Amtrak, the largest interstate passenger train line in the country, firearms of any type are forbidden on Amtrak trains. However, Amtrak is considering a proposal which will allow firearms aboard the trains if the guns are dismantled, unloaded and accompanied by the owner. (This criteria is similar to the established guidelines which theoretically allow firearms on all trains.) The Amtrak spokesman stressed that the proposal was not yet a policy and Amtrak would publicize the announcement when and if it takes effect.

Spokesmen from Trailways and Greyhound, two of the leading bus companies in the nation, said all types of firearms are prohibited on their buses (federal law states that firearms can be brought aboard a bus as long as the guns are unloaded and turned over to the bus driver for the duration of the trip.) Both spokesmen said they did not foresee any change in their company's current policy.

Firearm transportation laws are subject to frequent change and these guidelines should not be used as substitutes for official legal advice. If you have any doubts about the legality of your actions, call an attroney or law enforcement agent before leaving on the trip. Don't let what happened to Preston Brown happen to you. *N.R.A.*

## Cooperation

Concerned sportsmen are valuable assets to wildlife programs—and among the most important of their contributions is the help they give law enforcement officials.

When a Garden City man stopped along the highway east of Cimmaron to "limber up his pistol", a passing sportsman noted that the "target shooting" was aimed at a herd of deer. He reported the incident immediately to the local sheriff, providing the tag number from the suspect's vehicle. The dispatcher

notified Game Protector Richard Harrold and other law enforcement officers in the area.

An alert State Trooper picked out the tag and stopped the car. When Harrold arrived, he determined that the law had been broken five times during the course of the target-shooting incident. He cited the Garden City man for attempting to take a deer with an unlawful weapon, without a permit, and during closed season, as well as trespassing and hunting without a valid license.

The eye-witness provided valuable testimony in a hearing, which resulted in fines of $1,250 plus court costs.

Feeling mistreated, the shooter appealed his case to the District Court; again the sportsman gave an account of the attempted deer poaching. The District Court saw fit to dismiss the trespass charge, and reduced the fine to $1,000 plus court costs and a 10-day jail sentence.

The culprit was given even more slack when the District judge granted him one year of supervised probation in lieu of half the fine and the time behind bars. Should any violations be committed during the probation, however, the jail term and the $500 would become due immediately.

Manes

# Conservation: everyone's business

One day last October, State Trooper Terry Blosser noticed a car doing some lane-to-lane wandering and stopped the vehicle for a routine check. In it were two men from Fort Morgan, Colorado, one from McDonald, Kansas, and some fresh-killed game birds and rabbits—including a hen pheasant. Blosser took the men and the cargo to the Rawlins County Sheriff's office, where the three suspected violators were interviewed separately.

With no way to know what story their buddies were giving the officers, the three confessed to jacklighting the rabbits; but they wouldn't volunteer the guilty party in the illegal pheasant shooting. Still, there was the matter of explaining the possession of *any* birds a month prior to the opening of upland game bird season. The culprits couldn't come up with an alibi. So Game Protector Larry Dawson began writing tickets. All three men received citations for hunting with an artificial light, as well as unlawful possession of game birds. One of the Colorado men received an additional ticket for hunting without a valid license.

The Kansan was released on bail, but the two from Colorado were unable to post bond, and spent three nights in the Rawlins County jail awaiting their hearing.

All three pled guilty in front of District Magistrate Dorothy Reinert, who assessed fines and court costs totalling $1,007. The Kansas man also forfeited his rifle and shotgun for one year, his hunting privileges until 1984.

Game Protector Dawson expressed his gratitude to Trooper Blosser and to Judge Reinert for their cooperation and support in conserving the wildlife resources of Kansas.

Manes

# Show me evidence

More than 100 wildlife violation charges have been filed after undercover investigations by agents of the Missouri Conservation Department led to the arrests of 20 Missourians.

"It's the largest covert investigation we've been involved in since the Special Investigations Unit was formed in 1974," says Bob King, chief of the Department's Protection Division.

A Dallas County prosecutor brought 53 state charges against Laverne Farmer and Steve Curtman, both of Dallas County; and the two face additional federal charges for interstate transportation of wildlife and migratory bird violations involving doves.

Other charges were filed in Benton County against 19 persons, most of whom were allegedly involved in deer violations.

Farmer was bonded for $10,000 and Curtman for $15,000 on the Dallas County charges, which alleged the two illegally killed 15 deer, 95 doves, four wild turkeys, 29 squirrels, and more than 50 pounds of fish. The pair was arrested when they attempted to sell the game to an undercover agent. Also involved were five antelope, allegedly killed by Farmer and Curtman on a four-day trip to Wyoming.

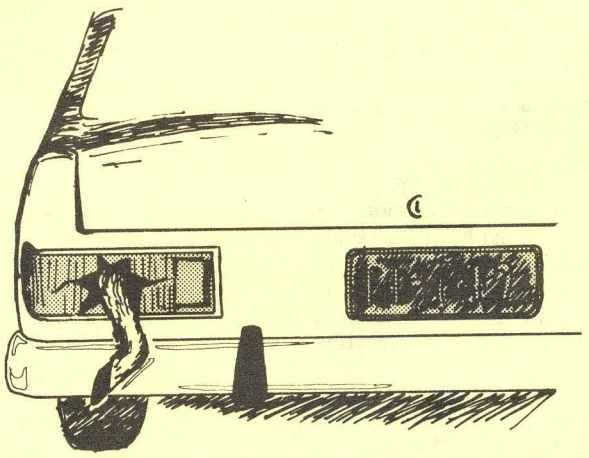
The second case originated from a tip through the Operation Game Thief program, which provides rewards for wildlife violation information. It is funded by private donation, and complete anonymity is guaranteed.

The tip on the Dallas County case came during investigations into the Benton County violations. Agents had been working for four months in the Benton County area and originally had identified a dozen violators, who gradually led them to another six.

A freak incident brought a break in the investigation: A deer, supposedly dead in the car trunk, kicked out both tail lights, and the car was stopped by a deputy sheriff on the traffic violation.

"That was on Monday, Oct 10, and they told our investigator that they were spooked and wanted to get rid of the wildlife they had on hand, so we made a buy on Thursday and then immediately arrested them," a Department spokesman said.

In the two cases, all 104 state charges are misdemeanors, but the six federal charges are felony violations. *Missouri Conservation Dept.*



# ISSUES

## Take yer PIK

The U.S. Department of Agriculture's Payment-in-Kind (PIK) program, designed to reduce the country's grain surplus, has been a boon for some farmers and a bust for wildlife. Farmers signing up for the program were encouraged to plant grasses or other vegetative cover on cropland left fallow, but in many states much of the land was left barren. In other instances, land not set aside under PIK, and previously not tilled, was plowed and planted with wheat or other crops—thereby increasing a farmer's agricultural base. Wildlife management organizations feel that PIK and other government programs setting aside agricultural land should benefit wildlife as well as landowners. *National Wildlife Federation*

## Conservation tithes

Agriculture Secretary John Block has announced that 10 percent of the 1984 feed grain acreage may be set aside for conservation purposes. The program appears to mark a change in USDA policy, which before had stressed production control without conservation benefits.

"I am referring to the 1984 program as an acreage conservation reserve to give special emphasis to the administration's objective," Block said. "We want to encourage farmers to place their more erosive land into conservation uses while continuing to balance supply and demand during 1984." He said that farmers may sign up for the program on January 16 through Februray 24, 1984.

To receive price supports under the program, a producer must limit feed grain acreage to not more than 90 percent of the average number of acres planted in 1982 and 1983. The other 10 percent must be devoted to conservation purposes.

USDA also attached some stipulations to the program that could potentially benefit wildlife as well as provide incentives for control of soil erosion. Haying will not be permitted on the conservation acreage. The set-aside land may be grazed, but not during the six principal growing months. This should give certain wildlife, such as pheasants, rabbits, and waterfowl, the opportunity to produce and rear young before the cover crop is reduced or removed. *Wildlife Management Institute*

## Sportsmen pay

Payment of $82.6 million in special taxes from American sportsmen is on the way to the 50 States and several provinces to support their fish and wildlife research and management programs, Under Secretary of the Interior J.J. Simmons, III, announced.

The money comes from excise taxes paid by sportsmen on hunting and fishing equipment. The funds are used to finance sport fish and wildlife restoration and hunter education programs. This is the first of two apportionments of the Federal aid funds made each year to the States and Territories under the Dingell-Johnson and Pittman-Robertson Acts. The second installment will be distributed after the 1983 fiscal year tax receipts are tallied by the U.S. Treasury Department.

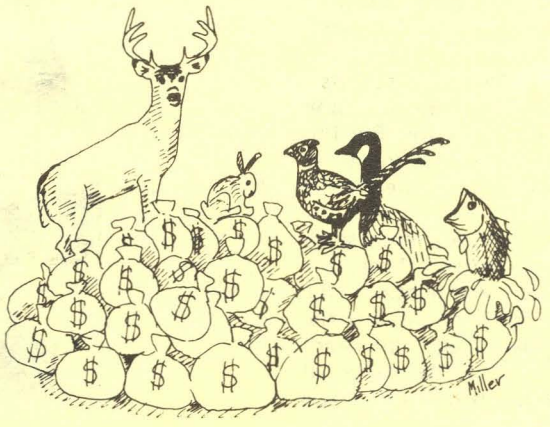
"I am reminded of the debt we owe sportsmen every year at this time as we witness the spectacle of millions of birds on their annual migration south," Simmons said. "These special taxes, paid willingly by sportsmen, ensure that the songbirds, as well as gamebirds, have places to rest and feed along the arduous route to their wintering grounds. And they also help ensure a healthy diversity of fish in our lakes, ponds, and streams."

Of the total funds available, $25 million are for fish restoration, $47.5 million for wildlife restoration, and $10.1 million for hunter education programs.

Funds for wildlife restoration and hunter education programs come from an 11 percent excise tax on sporting arms and ammunition, a 10 percent tax on pistols and revolvers, and an 11 percent tax on certain archery equipment. Distribution of wildlife restoration funds is based on a formula that takes into account the number of hunting license holders and the land area of each State. The funds may be used on approved State wildlife projects such as the acquisition of land for habitat, development and management of habitat, and research to aid in managing game species.

Distribution of hunter education funds is based on the relative population of each state. These funds are generally used for State hunter education programs that include the construction, operation, and maintenance of public target ranges, but may also be employed in wildlife restoration projects.

Fish restoration funds come from a 10 percent excise tax on fishing rods, reels, and artificial baits. Distribution of these funds is made according to a formula based on the number of license holders and the land area of each State, including coastal and Great Lakes waters. Activities performed by the State include purchase of land and water areas, construction and rehabilitation of lakes, development of access sites and facilities for fishermen, and research to aid in the management of sport fisheries. *U.S. Department of the Interior*



# Nature's Notebook

## by Joyce Harmon

Wildlife Education Coordinator
Kansas Fish and Game Commission

# Sunflower State Symbols

On January 29, 1861 Kansas became the 34th state to enter the Union. We celebrate January 29 as Kansas Day in recognition of the state's historic past and promising future. Many symbols have been established to represent the spirit of the state.

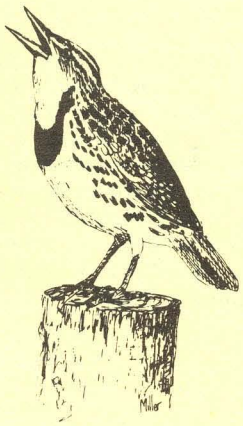
Kansas' state symbols include an insect, bird, mammal, tree, and flower. All of these are yellow and brown in color. There have been campaigns to select a state fish. We also have a state song, "Home on the Range", and a state motto, "Ad Astra per Aspera" (To the stars through difficulties).

# State Tree—Cottonwood

A riparian (streamside) tree, the cottonwood grows rapidly, making it a good source of wood. Cottonwoods also provide important shade for wildlife and humans. In fall, the green leaves turn bright yellow. The nickname "pioneer tree of Kansas" is appropriate because the cottonwoods seem to be found where few other plants have grown. They also provided a resting place for pioneers along the trail. The cottonwood was selected as the official state tree in 1937.

# State bird— Western Meadowlark

The Western Meadowlark, was selected by Kansas school children in an election on Kansas Day, 1919. The Kansas State Legislature made the election official in 1937. This colorful bird announces its presence with a loud flute-like song. The meadowlark has a black V on its bright yellow breast. The remainder of the bird's body is a mixture of brown, black and white. This common Kansas bird is helpful to farmers because it eats insects and many weed seeds that can harm crops. Meadowlarks are often seen perched on fences along the highway.



# State flower— Common Sunflower (Helianthus)

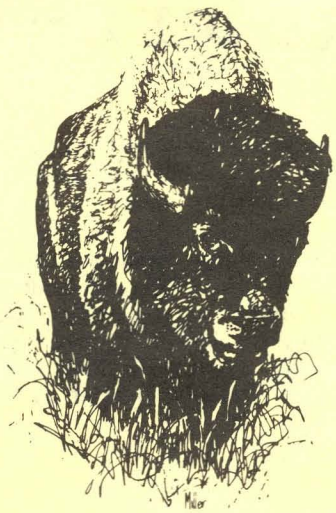
Twelve kinds of sunflowers grow in Kansas. The tallest species is the wild native sunflower or Helianthus. The yellow petals and brown center of this flower can be seen in fields or on roadsides, always facing the sun. Pioneers wrote about the beautiful sunflowers along the trails. Wild sunflower seeds are food for many bird species. Domestic sunflowers are raised for seeds, as well as oil. The governor declared the wild native sunflower as the official state flower in 1903. Since then, Kansas has been known as the "Sunflower State."

# State insect— Common Honey Bee

The common honey bee was imported to Kansas from Italy. Yellow and brown bands color this bee's abdomen. These insects have long pointed tongues and work in social groups or castes. Each colony has one queen, which lays eggs; drones, or functional males; and workers, which are undeveloped females. The industrious honey bee was chosen as the official state insect in 1976, after a campaign by Kansas school children.

# State animal— American Bison

Once numbering in the millions statewide, the bison (commonly called buffalo) is now reduced to a few remnant herds scattered across Kansas. Bison tend to be gregarious, which means they live together in herds. The head, legs and lower shoulders are dark brown. The back is lighter yellowish-brown; the horns are curved and black. Adults range in weight from 410 to 910 kilograms (900 to 2,000 pounds), with females being about 40 percent smaller than males. Bison graze on prairie grasses and forbs. This mammal was designated the state animal in 1955.



We celebrate Washington's and Lincoln's birthdays in February. During the month, investigate what the United States presidents have done for the environment.

# FEBRUARY

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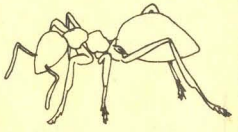
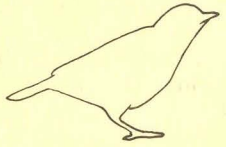
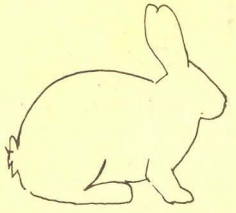
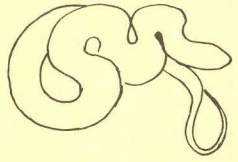
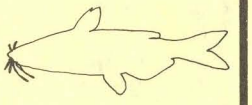
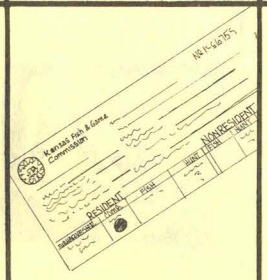
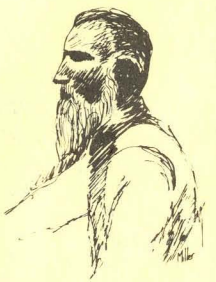
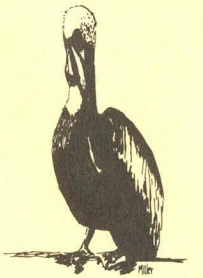
|---|---|---|---|---|---|---|
| **Die when I may, I want it said of me by those who knew me best, that I always plucked a thistle and planted a flower where I thought a flower would grow.**<br>**—Abraham Lincoln** | | February 2<br>GROUNDHOG DAY<br>Legend states that if the groundhog sees its shadow on this day, there will be six more weeks of winter. The custom originated from the German Badger Day. |  | Groundhogs are members of the marmot family. What can you learn about this family of mammals? What other animals help predict the weather? | February 1967. One of the largest recorded fish kills in Kansas occurred in John Redmond Reservoir due to feedlot runoffs. An early spring thaw and rain contributed to the disaster. | Locate John Redmond Reservoir. Write your own definition of "runoff." |
| **"-ology"** — means the study of something. Scientists specialize in studying the environment. See how much you can learn about the following "-ologies." | **Ecology**—the study of relationships between living things.<br><br>**Zoology** — the study of animals. |  <br>**Entomology** — the study of insects. | **Ornithology** — the study of birds.<br>  |  <br>**Mammology** — the study of mammals. | **Herpetology** — the study of reptiles and amphibians.<br>  |  <br>**Ichthyology** — the study of fishes. |
| **"We loved a great many things — birds and trees and books and all things beautiful and horses and rifles and children and hard work and the joy of life."**<br>**—Theodore Roosevelt** | Research environmental efforts of presidents: Grover Cleveland, Calvin Coolidge, Theodore Roosevelt, Dwight Eisenhower, Gerald Ford, Ulysses Grant, Franklin Roosevelt, and Ronald Reagan. |  | February 18, 1905. Hunting licenses, bag limits, and State Fish and Game Deputies were established in Kansas. | **Bag limit**—the number of animals that may be harvested legally in a twenty-four-hour period. A hunter may remove four pheasants each day. This a bag limit. | **Extinct**—species that no longer exist. Examples include the passenger pigeon, the great auk, and the sea mink. | February 21, 1918. The last captive Carolina parakeet died. Carolina parakeets are extinct. |
| How many signs of winter camouflage can you find? Some animals have white fur or feathers in winter to match the snow. What does camouflage mean? |  | Fish don't hibernate for the winter; they slow their activities.<br><br>Look up the words hibernation and estivation in a dictionary. | February 26, 1867. A House bill on gopher bounties was introduced. As a humorous gesture, the Senate changed the bill to grasshoppers instead of gophers and offered a bounty for "all scalps of grasshoppers furnished with the ears." | A sure sign that spring is on the way is the sound of birds singing. The birds are responding to the change in light, not to the weather. Tape-record the calls and songs to help in identification. | Be on the lookout for other signs of spring, such as migration, nest building, plants budding, and mating rituals. | Most insects die each fall after leaving eggs or cocoons behind. Some insect species hibernate, and others are active during the winter. Look for signs of insect activity. |

# MARCH

| | | | | | | |
|---|---|---|---|---|---|---|
| **When one tugs at a single thing in nature, he finds it attached to the rest of the world.**<br>**—John Muir** | |  | Write a short biography on naturalist John Muir. What impact did his work have on the environment? | March 1, 1922. Izaak Walton League of America was founded by Will H. Dilg. Its primary concern was pollution control. | The Izaak Walton League has local chapters that are involved in a variety of conservation projects. Learn more of their important efforts. | The Izaak Walton League motto is: "Conserve, maintain, protect, and restore the soil, forest, water, air and other natural resources and promote the enjoyment of these resources through education." |
| March 6, 1877. First Kansas bounty on predators (wolf, coyote, wildcat, fox) enacted on this date. This $1.00 bounty was later dropped. What are bounties and why were they eliminated? | March 6, 1883. A law passed making it illegal to use explosives like dynamite or nitro-glycerine to kill fish. Review the current fishing regulations. | March 7, 1877. A law approved in Kansas to protect all birds except geese, ducks, hawks, owls and snipe. What is the status of these birds today? | **Refuge** — a wildlife sanctuary. National wildlife refuges are located across the United States. | March 14, 1903. President Theodore Roosevelt issued an Executive Order, which made the Federal Government responsible for providing refuge for brown pelicans on Pelican Island. |  | The brown pelican has rapidly neared extinction because of human harassment in its nesting habitat. |
| Locate Pelican Island, a 2½-acre bird sanctuary off the east coast of Florida. The Executive Order made Pelican Island the first National Wildlife Refuge. | Observe National Wildlife Federation Week. The theme this year is, "Water: We Can't Live Without It." | March 16, 1934. The Migratory Bird Hunting Stamp Act passed. This provided funds for refuges. Much of the money used to purchase waterfowl refuges comes from the sale of migratory bird hunting stamps. | Jay N. "Ding" Darling designed the first migratory bird hunting stamp. Learn more of Darling's conservation artwork and the laws requiring the stamp. What does migratory mean? |  | Locate the National Wildlife Refuges in Kansas. Quivera, Kirwin, and Flint Hills National Wildlife Refuges are in Kansas. | **Vernal Equinox**— approximately March 21. First full day of spring. Day and night are equal in length. Check sunrise and sunset times to verify this. |
| March 1903. Appropriations were made to establish the first Kansas fish hatchery in Pratt. What stream supplies this hatchery with water? | March 1883. A law was passed requiring hunters to obtain permission from landowners before hunting on private land. Why do you think this law still applies today? |  | March 10, 1934. The Fish & Wildlife Coordination Act requires that federal government construction activities include consideration for wildlife and water and provides for compensation for habitat destruction. | March 24, 1900. The last wild passenger pigeon died in Pike County, Ohio. What can you learn about the passenger pigeon? | Do a brief study on extict wildlife of North America. Be as thorough as possible. Include the reasons for extinction. | Severe spring blizzards of 1959 caused a reduction in the quail population. Why is weather such an important factor in wildlife survival? |

# HUNTING

## Stewardship

Not too many farmers volunteer to lose money in hard economic times. But Walt Snell and his son-in-law, Don Harden, do it every year. The Finney County farmers do it in the name of wildlife conservation. Both men feel the results are worth every penny they lose.

Each year, Snell and Harden plant a small portion of the crop land they own strictly for wildlife and not for harvest. In essence, they are trying to open a few cafes and motels for wildlife—to give birds and deer a place to breathe among the vast expanses of row crops and feedlots in their area of southwestern Kansas.

"We plant between 17 and 20 acres of land each spring just for wildlife and leave it. There are more farmers beginning to appreciate that if you leave a little here and there, you will have some wildlife—both game and non-game species," Harden says.

The patches of cover and feed get visitors at different times. In the fall, there may not be many wildlife visitors. But in winter, when the snows hit, those areas become a safe haven for scores of birds and animals.

"It's too bad, but you can't afford to devote large acreages to that, especially on rented land. We have a lot of people who say Snell and Harden aren't too smart for planting 10 acres in a section to wildlife cover," Snell notes.

Together, Snell and Harden own a section. The rest of the 3,800 acres they farm is rented. One day, Snell says he would like to have six-row tree plantings around each quarter in his section. The trees act as both a windbreak and wildlife habitat.

Such dedication requires they look the other way once in awhile. If all they cared about was maximizing profits, the wildlife habitat probably would suffer.

But for both men, leaving a little land for birds and animals is a necessary part of the operation. Agriculture needs a healthy environment, they say, and having the wildlife means the environment is sound.

"It adds up to one thing. If you want it bad enough you will do it. If you start putting a pencil to it—forget it, it will scare you to death," Snell admits.

Harden agrees. If a farmer takes a small chunk of irrigated land out of crop production, the dollar amounts can start to add up in a hurry.

"But we put blinders on. It's just something we want to do," Harden says. *Reprinted from Kansas Farmer, Oct. 1983*

## Hunter orange facts

Hunter orange clothing has now been available for about 20 years and has been accepted by most bird shooters and big game hunters. Yet some gunners are still skeptical of its benefit. If you're in this minority category, these findings should change your mind.

It's a fact that fluorescent orange is the brightest, most easily recognized color against a natural background. Hunter orange is the only satisfactory color for hunters to wear under all weather and light conditions.

Almost 10 percent of all hunters have color vision deficiencies. Red clothing, for example, is no longer recommended because this hue won't be recognized by hunters who cannot distinguish color properly, and it becomes difficult to see in poor light.

Accidents in which the victim was mistaken for game rank high on the list of hunting accidents. Yet states with mandatory hunter orange laws have had dramatic decreases in mistaken-for-game accidents.There is no question that these sharp reductions are a result of hunter orange clothing.

Hunter success has not been affected in those states with mandatory hunter orange regulations. Yet, hunter orange clothing is a tremendous aid in helping sportsmen maintain visual contact with one another, particularly when moving through dense cover or woods. Experienced hunters are aware that, unless they know the location of their partners at all times, they cannot determine their safe zone of fire. They appreciate the value of fluorescent orange in helping everyone keep track of each other while in the field.

Hunter orange has been defined as fluorescent orange with a dominant wave length of 595-605 nm (a measure of light intensity), a purity of not less that 85 percent, and a luminance factor of not less than 40 percent. Clothing not meeting these standards is less effective. Hunter orange garments that have faded should be replaced.

Thirty-four states and Canadian provinces have instituted mandatory hunter orange regulations. *National Shooting Sports Foundation*

## Bigger? You're kidding!

Of all the statements we might have had to question in the Nov./Dec. issue, I considered this the least likely candidate: The monster Missouri buck illustrated in the article "Those Alluring Antlers" may not remain the world record whitetail! After our magazine went to press, we learned of another, possibly even bigger buck.

An Ohio discovery, this non-typical whitetail was found dead in the early 1940's. Its massive rack weighs almost 12 pounds, is 32 6/8 inches wide, and sports 44 scorable tines! Known as the "hole in the horn buck" for a bullet mark in one drop tine, this animal was mounted, hung in a bar in Kent,Ohio, and, unbelievably, never officially measured until Dick Idol of North American Whitetail Magazine traced it down. Its rough score of 342 2/8 points beats that of the Missouri buck by 8 4/8 points. The discovery of these two monsters in such short time is made even more incredible by the fact that Jeff Benson's 1892 Texas whitetail went unchallenged as the world record until the Missouri buck outscored it by *47 points* two years ago!

Have we seen the biggest whitetail yet?

Wayne van Zwoll

# FISHING

## Ice safety

When winter winds bring sub-freezing temperatures, zealous anglers turn to ice fishing. Bait dangling through a small, well-placed hole in the ice can attract more fish than a Hula Popper on a calm summer morning; and veteran ice anglers say cold-water fish are superior table fare. But safe ice fishing calls for special precautions. Ice anglers who neglect these can find themselves in serious trouble.

Ice less than three inches thick is generally not strong enough to hold a man. A spud bar or ice auger should be used to make a test hole near the bank before proceeding onto the ice. Ice will be thinner near the bank and near inlets and outlets, so if it's thick there, it's probably OK further out.

Even where ice is thick, however, it may not be safe. Several hours of above-freezing temperatures will cause the ice to become rotten or soft. If it is easy to drill or chip a test hole, the ice may not be safe. Clear ice is generally considered safest, but flatland ice, frozen slowly while being wind-swept, is nearly always cloudy, yet quite strong. Sagging or bending ice —or that holding standing water— is unsafe.

When a party of anglers ventures out on the ice, it is best they remain dispersed until safety is assured. And automobiles should never be driven on Kansas ice.

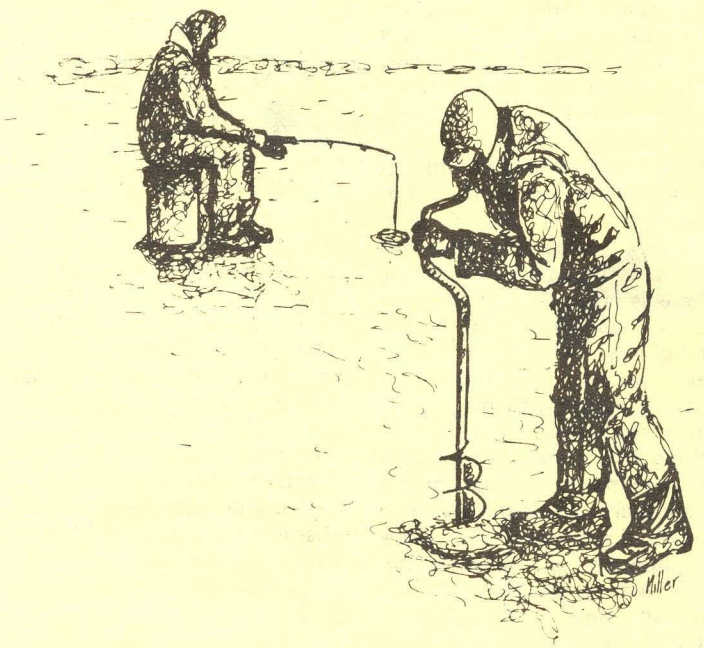
By sitting in a small, flat-bottom boat, ice anglers can guarantee themselves flotation. A life jacket should always be worn when ice fishing. Many people pad buckets with a throwable boat cushion for added safety and comfort.

Warm clothing and insulated boots are basic to ice fishing, and hot drink is a near necessity. (Alcohol, incidentally, is of no help in keeping a body warm. It causes capillary constriction, reducing the body's ability to warm itself.)

Many first-time ice fishermen have been frightened by loud reports from thick reservoir ice. These should be taken as a reassuring sign that the ice is thick and solid. The explosive sounds are the result of expansion and contraction.

Safety on the ice is not an option for winter anglers, but a necessity.

Manes




## Fish cancer

After receiving reports detailing cancerous tumors in fish in Torch Lake, Michigan, the Hudson River in New York, the Black River in Cleveland, and the Duamish River in Seattle, Congressman John Breaux (D-LA) has called for Congressional hearings to determine what federal action is called for to deal with this problem.

Breaux, Chairman of the House Fisheries Subcommittee, was distressed by what he termed, "an ominous warning for the entire fishing community. This is an issue that warrants immediate attention and a well-coordinated federal effort to find out exactly what has caused this outbreak."

The hearings will help organize federal action by bringing together Washington officials who are responsible for investigating this type of problem. Breaux wants to use the hearings to decide how the federal government will attack this issue and what timetable will be required to get some answers. "Something is radically wrong here," said Breaux. "Fish are historically cancer-free, which makes this outbreak particularly alarming. Furthermore, any disease in fish warrants quick action before other downstream affects are found."

"In the Torch Lake case, fishermen had seen these growths on fish long before the problem was reported. If there are any other cases of cancerous growths on fish anywhere else in the country, we must find out immediately," Breaux said.

The Committee will hold hearings in September. In the meantime, Breaux plans to continue his effort to mobilize proper federal, state, and local authorities to deal with this outbreak as it relates to fish and the possible effects passed on to humans.

The problem has been linked to a combination of past environmental abuses and current disposal procedures that have led to high levels of a number of toxins in water systems. But without a detailed study, the exact cause of this outbreak is still unknown. *Aquaculture*

# NATURE

## Peregrine comeback

Peregrine falcons, those magnificent birds of prey which approach speeds of 200 miles per hour when they dive on their quarry, are making a comeback, reports the Cornell University Laboratory of Ornithology. Like many other raptors, peregrine falcons were decimated by the use of DDT and similar harsh pesticides during the 1950s and 1960s. Since the use of such chemicals has been banned in this country, peregrine populations have been increasing.

In North America, peregrine falcons have increased considerably since 1975. On the Colville River of Alaska's North Slope, for example, there were 27 cliffs occupied by nesting peregrine falcons in 1982, compared to only 15 nesting pairs of birds in the early 1970s. On the Yukon River, peregrine falcons are now nesting at or above 1950 levels.

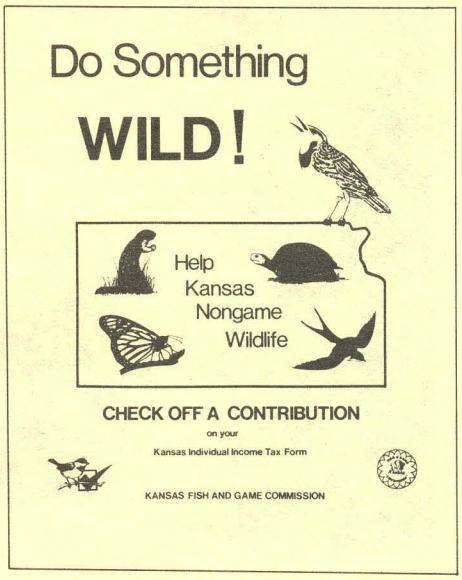
Record numbers of peregrine falcons are now being seen along the East Coast as well. Last fall at Cape May, New Jersey, a record 50 peregrine falcons were seen in one day. Researchers at Assateague and Chincoteague islands in Virginia recorded more than 600 peregrine falcon sightings in 1982.

The news from Europe is even better. In Great Britain, a population that was reduced to 350 nesting pairs in 1963 now totals more than 1,000 pairs and shows no signs of slackening. This is the highest known level of nesting for peregrine falcons in Great Britain this century.

For the most part, peregrine falcons reside in Kansas only during the winter (although a female, believed to be a road-kill, was found in May of 1982). They did nest in Kansas, along the Saline River, as late as the 1870s. This and other areas have been examined for potential reintroduction of nesting peregrine falcons; but the most promising reintroduction sites are probably in urban areas.

The endangered raptors are known to nest in cities, on all sorts of man-made structures. Problems involving poisoning, predators, and human disturbance can be reduced in an urban setting, making the successful reintroduction of peregrine falcons in Kansas more likely.

Manes




## Status of check-off

After all 1982 state tax returns are processed, more than six million dollars will be added to 20 different state nongame check-off programs. Next year, eight more states will have wildlife check-off options on their tax forms.

With $140,000 from the 1982 tax year, Kansas ranks 13th out of 20 states in the total amount contributed to its Nongame Program, 12th out of 16 in the percent of eligible taxpayers that contributed, and 3rd out of 17 in the average amount of each contribution. This suggests that generous contributions come from the minority of Kansans who are aware of the Nongame Program.

A Kansas check-off awareness campaign will be expanded during the 1984 tax season. One aspect of the campaign is the development of a new poster, which will be used to inform people about the program. Promotional funds and manpower are limited, so help from concerned citizens is needed in spreading the word, distributing posters, and informing people about the check-off option.

Manes

## Shock treatment

This year's drought suppressed the bloom of fall flowers and made times tough for a creature already in trouble — the ruby-throated hummingbird. In a population slump for unexplained reasons, the ruby-throats are further jeopardized by, of all things, electric fences.

Ornithologists have discovered that hummingbirds are perching on electric fence wires and probing crevices in red insulators, mistaking the devices for flowers. Either the bird's beak or tongue touches the metal fencepost, creating a short that kills the creature.

The solution is simple--fence-builders shouldn't buy red, orange, or yellow insulators, and manufacturers shouldn't make them in those colors.

The decline of the ruby-throat is puzzling. The Audubon Society has them on its Blue List, which is a "watch list" of animal species that are in trouble.

*Missouri Dept. of Conservation*

## Instant raptor

The world's first falcon bred from artificial insemination was produced at McGill University's Raptor Research Centre in 1983. The semen was collected from male American Kestrels, frozen at minus-196 degrees centigrade in liquid nitrogen, and finally thawed and deposited into non-paired females. Two fertile eggs were hatched by artificial incubation. However, only one survived to fledge. Dubbed 'Nitro', the healthy male will be added to McGill's kestrel breeding colony of 300 birds. The study will continue in 1984. *The Eyas*

# WILD DESIGNS

## Nimmo's art

Sharon Nimmo's paint brushes have frozen as she tried to paint a snow-covered winter scene in the discomfort of an outdoor studio; her easel has blown into an Ozark stream; and goats have immersed their noses in her paints.

Preferring to paint from real-life models in natural settings, Sharon tries to capture wildlife in those brief moments of visibility that are only witnessed by the dedicated observer . . . or by one fortunate enough to have a Nimmo painting. Sharon feels strongly that her paintings should take the viewer on a vacation. She often includes a touch of nostalgia, with an old barn or wagon wheel woven subtly into the setting.

Sharon's work has been displayed by galleries and art dealers across the United States. She is currently instructing several art students at her Valley View Art Studio in Blue Springs, Missouri.

Manes

## The winner

William C. Morris, 38, of Mobile, Alabama, captured a prestigious honor in national competition at the Interior Department in Washington, D.C., where his watercolor design was selected over 1,581 entries in the 50th Anniversary Duck Stamp contest, which was judged on November 8 and 9. It was the first time that Morris had ever entered the Federal contest.

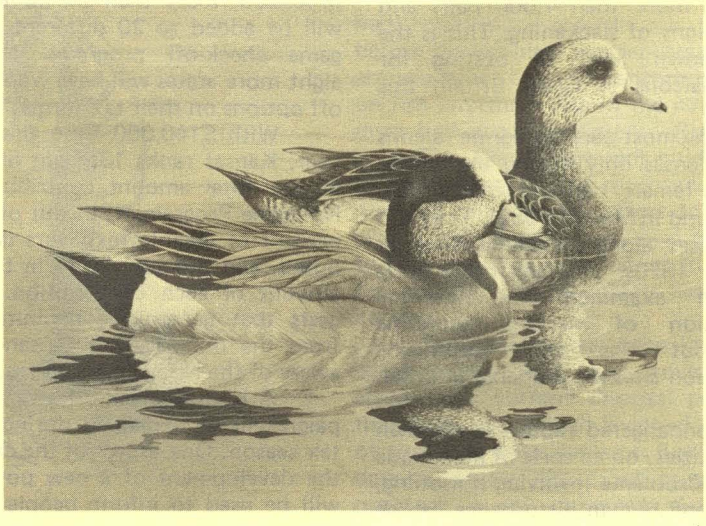
His design will be reproduced on next year's "golden anniversary" Migratory Bird Hunting and Conservation Stamp, which must be purchased by all waterfowl hunters 16 years of age and older in the United States. Nearly two million of the colorful stamps are sold each year to hunters, stamp collectors, and a growing number of non-hunters who want to contribute to the nation's wildlife conservation effort.

The design for each year's Duck Stamp is selected through the federal government's only regularly-sponsored art competition. Revenue from the sale of the Duck Stamp is used to buy vital wetland habitat under a program administered by the U.S. Fish and Wildlife Service since 1934.

Morris's achievement follows his win in the 1984 Alabama state waterfowl stamp competition held earlier this year.

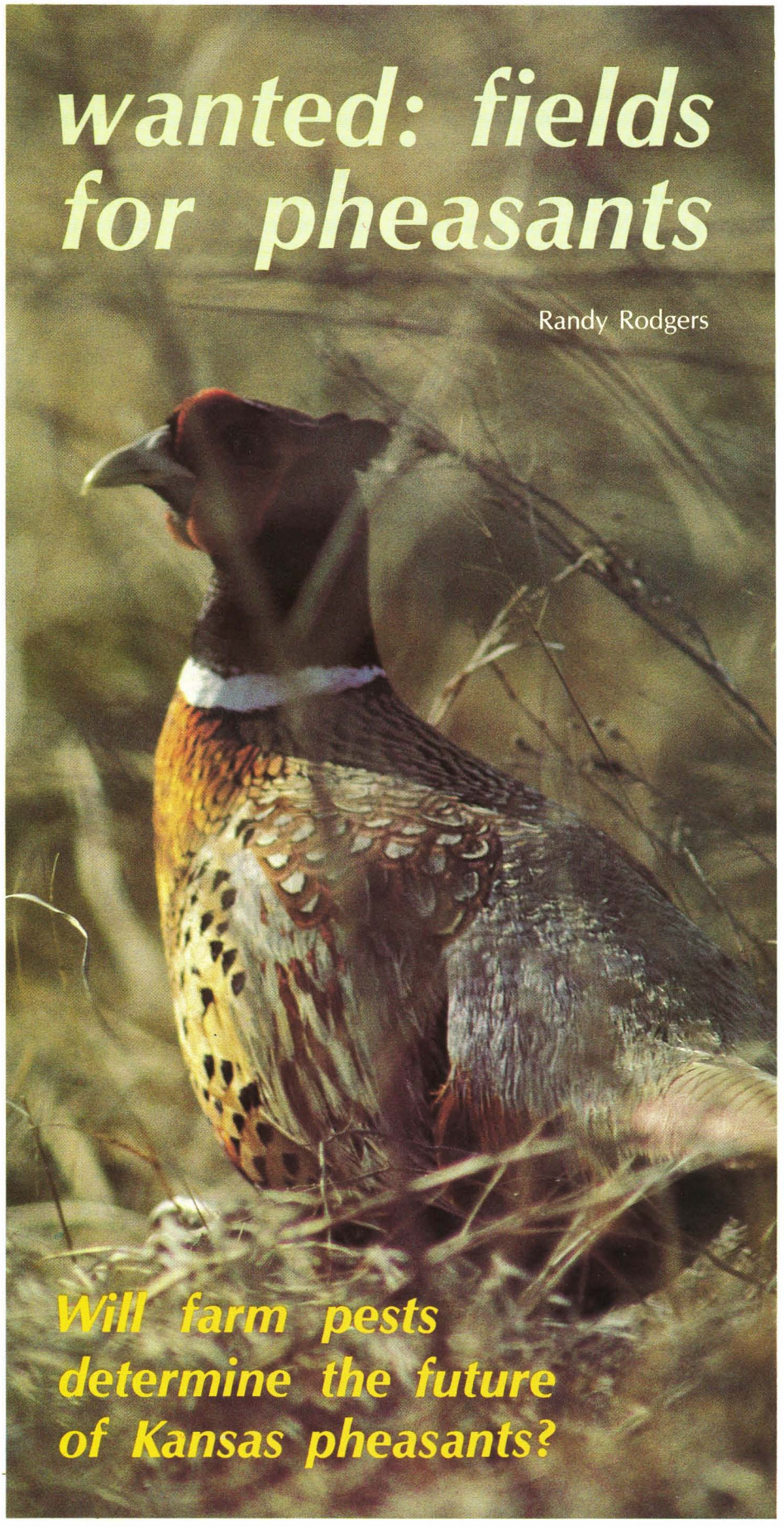
"I've won? I don't know what to say! What a delightful Christmas this will be! This is unbelievable!" Morris said when G. Ray Arnett, Assistant Secretary of the Interior, telephoned to inform him of his first place finish.

A Mobile native, Morris has had no formal art taining except for a few weeks of in-studio instruction. "They wanted to make me something different than what I am, and tell me what to paint. I wanted to paint wildlife, so I left," he said. *Dept. of the Interior*



# wanted: fields for pheasants

Randy Rodgers



## Will farm pests determine the future of Kansas pheasants?

Gene Brehm photo

When someone mentions wildlife habitat, most of us envision natural and relatively permanent cover, such as forests or marshes. But frequently we forget to include one habitat type that is both abundant and very important in Kansas . . . our croplands. Sure, we understand that crops provide food for many forms of wildlife. But that doesn't make croplands any more than just habitat components.

Or does it? For one Kansas bird—the ringneck pheasant—croplands provide both food and cover. Agricultural areas *are* pheasant habitat.

Pheasants spend their entire lives dodging a gamut of dangers imposed by man's agricultural activities. But, while agriculture creates many hazards for pheasants, it is also their primary beneficiary. There is no doubt that even the most accommodating of natural habitat could support only a scattering of pheasants, if there were no grain fields nearby.

Agricultural practices directly affect the welfare of pheasants. It's easy to understand how haying an alfalfa field in May can impact these birds. But the effects of other management practices aren't so obvious. Much of a farmer's efforts are directed at controlling pests which compete with or damage his crops. Everything from microscopic viruses to large mammals can assault his produce and cut the yield . . . sometimes in a big way. Even pheasants became pests when they reached the incredible density of four birds per acre on Pelee Island in Lake Erie back in the thirties. But our ringneck is usually just an innocent bystander caught in the farmer's war on agricultural pests. A brief look at the battle fronts in this war will illustrate the complexity of the relationship between man and pheasant.

Perhaps we should start with the very small pests. When it comes to organisms, you can't get much smaller than a virus, and it's a virus that is responsible for one of the

most damaging wheat diseases in Kansas: wheat streak mosaic. Over the last four years, this disease has caused wheat losses ranging from an estimated 1.2 million bushels in 1979 to 21.4 million bushels in 1981.

Wheat streak mosaic is distributed by a small mite. The wheat curl mite picks up mosaic virus while feeding on the infected young growth of wheat or certain grasses. The wind then disperses these mites from plant to plant or field to field, and the mites spread the disease by feeding on uninfected plants.

Neither the wheat curl mite nor the wheat streak mosaic virus can survive in ripened grain or grasses. So this disease cycle is at low ebb in mid to late summer after wheat has been harvested and many grasses are mature. Of course, neither the virus nor the mite are in danger of extinction, so they must get through this period somehow. They do it primarily on volunteer plants—wheat that sprouts from kernels lost to the combine.

It follows that the best way to break this disease cycle is to destroy the volunteer wheat before the next crop is drilled. But what does that have to do with pheasants? Consider these two factors: The most common form of destroying volunteers is through tillage, and it's difficult to kill these plants by tilling without also damaging the wheat stubble. Now think of western Kansas where wheat stubble is the major form of over-winter cover for pheasants. Imagine how few pheasants we would have in the west if all farmers tilled their stubble fields in late summer to control wheat streak mosaic!

Fortunately, most farmers in western Kansas realize that the erosion control and moisture conservation benefits of undisturbed stubble on fallow ground far outweigh the risks posed by wheat streak mosaic. Unfortunately, some don't!

A couple of fungal diseases of wheat also influence our pheasants. Cephalosporium stripe has been credited with causing annual losses of around five million bushels of wheat in recent years. Another major fungal wheat disease, tan spot, accounts for an additional five million lost bushels every harvest.

These diseases don't incorporate any unusual hosts like the mite carrying wheat streak mosaic. Cephalosporium enters the plant through small injuries in the roots and then invades the vascular system, eventually plugging it sufficiently to block transport of water and nutrients within the plant. Tan spot is transmitted through the air and causes lesions on the wheat leaves.

Aside from the fact that these are fungal rather than viral diseases, cephalosporium stripe and tan spot differ from wheat streak mosaic in that they can survive on the dry wheat stubble itself, but not so well that they persist through fallowing. These diseases are thus of less importance in western Kansas where wheat is generally planted only after about 15 months of fallow. And that's great! We can certainly do without additional incentive for farmers to destroy the stubble so critical to wintering pheasants.

But consider central—and particularly south-central—Kansas, where wheat is often planted every year on the same land. Wheat stubble left after harvest is the perfect mechanism for transmitting these diseases on to the next crop. Consequently, plant pathologists recommend deep plowing or burning the stubble soon after harvest to control these diseases. Either way, the field then becomes a biological desert for pheasants. Green wheat planted in September or October hardly puts on enough top growth to shelter a horned lark in winter, let alone a ringneck. The result is that pheasants can have a mighty tough go of it in parts of our continuous wheat country when the snow flies.

Even in spring, "clean" farming practices or continuous wheat schedules adversely affect ringnecks. Green wheat at least eight inches high can provide excellent nesting cover for pheasants because it's dense enough to conceal the hen well, and, more importantly, it remains undisturbed by agricultural operations for a period long enough to permit the hen to successfully lay and hatch her clutch. But if the stubble was previously destroyed, there is almost no residue in these fields from which to build a nest. The hen must either nest in alternate cover or she must place her clutch on essentially bare ground, a cold and often wet situation not conducive to embryo development.

Pheasants on continuous-wheat land have benefitted from the recent movement toward conservation tillage, where as much of the crop residue as possible is left on the soil surface. South-central Kansas could experience a boom in pheasants if farmers were able to seed their wheat directly into the stubble from the previous crop. But cephalosporium stripe, tan spot, and other diseases will probably prevent many farmers from maintaining surface stubble in their continuous wheat cropping systems.

If it seems I've neglected milo and corn, it's because diseases in these crops are of lesser import than those in wheat. The real problem in corn and sorghum cultivation comes at a different level: insect control.

Most of us probably think of grasshoppers, root worms, or other relatively large bugs when we think of insect pests. But some very small insects actually rate as the top crop pests here in Kansas. Take the infamous greenbug, for example.

Greenbugs are aphids that make their living by sucking nutrients from plants. They rarely survive the winter in Kansas, except possibly in our southernmost counties. But Texas winters a good supply of them and conveniently ships them our way on warm southerly winds each spring. The greenbugs settle on winter wheat, where they feed and reproduce. Each female gives birth to an average of two live offspring per day, which are themselves ready to reproduce in only a week.

While greenbugs can seriously injure young winter wheat plants,

Randy Rodgers photo

this damage is minor compared to that which occurs when the wheat matures and the aphids seek younger host plants. By this time their numbers have often vastly increased, and they move to—you guessed it—milo and corn. These young row crops may sustain greenbug damage severe enough to cut yields up to 50 percent!

Standard treatment of these infestations is with insecticides. Most modern bug sprays don't directly affect pheasants in the fields being treated—at least, as far as we know. However, much concern has centered around the highly toxic pesticide, parathion.

Research in Nebraska has shown that a typical aerial application of parathion (it's too dangerous to apply from the ground) will produce a sharp drop in cholinesterase levels in a pheasant's brain and blood, which can persist for up to four days. Cholinesterase is an enzyme critical to brain function. Researchers have demonstrated that injury can occur by direct absorption of parathion through the skin or by ingestion of insects killed by the spray. Though they documented no parathion-induced deaths, the biologists found that cholinesterase depression in pheasants was often severe enough to suggest that a second dose within a day or two could be lethal.

These are alarming findings. Pheasants can easily move out of a treated field and into another which is subsequently sprayed, exposing themselves to a multiple dose. Also, the reduced cholinesterase levels, even from a single exposure, may sufficently impair brain function that the birds become more susceptible to predation or other environmental stress. Finally, pheasant chicks are probably most vulnerable to contact with parathion, raising the possibility that unseen reproductive losses are occurring. Young broods are attracted to growing corn and milo, feeding primarily on insects early in life and setting themselves up for heavy parathion exposure.

Though the presence of greenbugs is potentially dangerous to pheasants, that of another insect is beneficial. *Lysiphlebus testaceipes* is the scientific name of a tiny wasp that parasitizes the greenbugs, using them as incubators. With impressive speed and effectiveness, *L.t.* injects greenbugs with its eggs, which develop within the pests. The wasp egg kills the greenbug within days, converting it into a mummy that provides nourishment for the embryonic wasp. Once the wasp emerges, it goes looking for more greenbugs. This relationship helps control greenbug populations and, no doubt, translates into a lot fewer pheasants being exposed to parathion.

*An undercutter was used in this field to destroy weeds. It left stubble for nesting birds, soil protection, moisture conservation. Some tillage programs benefit both the farmer and resident wildlife, while others must compromise either cash flow or habitat.*

Gene Brehm photo

*Besides affording cover for wintering pheasants, wheat stubble is important to nesting hens.*

Chinch bugs are another important pest on corn and sorghums. Like greenbugs, they feed and reproduce in wheat and move to growing row crops once the wheat starts to mature. However, the chinch bugs that migrate to corn and milo are nymphs and, consequently, can't fly. This has resulted in a management strategy which, in the past, employed physical barriers at field edges that blocked the movement of the nymphs. But now it is more popular to treat field borders with an insecticide. If that's done with parathion . . . well, no need to repeat that story.

The chinch bug survives Kansas winters by hiding in clumps of dense grasses. This behavior gave rise to the management recommendation prevalent years ago that dry grasses be burned during the winter to destroy the chinch bugs. Almost certainly, this helped stimulate the practice of burning road ditches in November and December. Though winter burning is no longer recommended for chinch bug control, firing ditches continues today partially because it has become a tradition which no longer requires justification. A burned roadside provides no cover for pheasants.

The Hessian fly provides a final example of how insect pests ultimately affect pheasants. The larvae of this insect feed on wheat, causing death of small tillers and sometimes weakening the stems enough that they break over before harvest, making the grain inaccessible to the combine. The larvae then pupate in the dry stubble, and the adults emerge from the pupae in August or early September. If the adults find no green wheat where they can deposit their eggs within a week, the cycle can be broken and effective control of this pest is achieved.

The best method of controlling Hessian fly populations is to seed the next crop of winter wheat late in the year after the "fly free date", which varies from mid September in northwest Kansas to mid October in the southeast. But deep plowing of infested stubble and destruction of volunteer wheat in stubble is strongly suggested.

It's difficult for most of us to relate to microscopic pathogens or tiny insects we've never seen. But what about weeds? Who hasn't pulled crabgrass or cut dandelions out of the lawn? A farmer knows unwanted plants compete with his crops, cut his profits, and, consequently, are pests of the highest order.

Controlling weeds is so important to farmers that it has become a social, if not almost a religious, responsibility. A few farmers are so consumed by weed paranoia that their control methods end up costing them more money than they realize from increased crop yields. An excellent example is evident in parts of western Kansas where wheat is grown after fallowing. The whole purpose of the 15-month fallow is to store water in the soil for next year's crop. If weeds get out of hand on the fallow ground, they will sap that precious moisture. But other factors enter into moisture storage.

Keeping the wheat stubble standing in the field during fallow periods controls erosion, helps trap moisture-laden snow, and dramatically improves water intake and storage in the soil during spring. It's been proven that discing the stubble after wheat harvest will cost several bushels per acre in the next crop. It's much better to do nothing! Nevertheless, a few farmers are so upset by the weeds they see after harvest that they disc the stubble anyway. Once again, the pheasants get the short end of the stick.

Spring discing of fallow wheat stubble fields is not without its problems. It's imperative for the farmer to kill the weeds at that time, but discing still destroys the valuable standing stubble, not to mention all the bird nests and many of the incubating hens in it. So the farmer is faced with a dilemma. If he kills the weeds, he also damages the stubble and wildlife.

Fortunately, this is one area

where modern management practices are rapidly improving the outlook for both farmer and pheasant. Conservation tillage, in all its variations, maintains stubble on the soil surface while controlling weeds. Special equipment is now available for effective weeding without stubble destruction.

Chemical weed control is, in many instances, eliminating the need to till the soil at all. Some farmers understandably shy from using the more potent compounds like paraquat—a chemical proven to cause embryo deaths or defects in bird eggs exposed to typical field applications. But many herbicides appear to be quite safe for non-target organisms, and the limited studies conducted so far have all pointed to substantial wildlife benefits produced by minimum tillage.

The dryland wheat-sorghum-fallow rotation catching on in western Kansas involves planting milo directly into wheat stubble. Unfortunately, ground squirrels have become pests in this rotation because the stubble allows them to move safely into these fields to dig and eat the just-planted milo seeds. Farmer response to this problem has included placing poison grain in the fields to kill ground squirrels. But pheasants and other birds have also been poisoned by these baits. Solutions to this problem are being developed. Probably the best idea is to treat the seed to be planted with repellents, which temporarily sicken the offending ground squirrel and ensure that it develops a strong aversion to milo seed. This technique keeps the squirrels alive, permitting them to continue their normally beneficial habits of eating weed seeds and harmful insects. And pheasants remain unaffected.

If all these examples of agricultural pest control leave you a little confused, you're not alone. A myriad of agricultural factors affect pheasants in varying and often unclear ways. Superimpose nature's capricious temperament, and the situation becomes even further clouded. That's why many biologists find predicting future pheasant populations so difficult.

Through the late 60's and early 70's, biologists could make few positive statements concerning Kansas pheasant hunting. But in the late 70's the birds staged a comeback here—and in many other states. Surely, pheasants are tough, persistant, highly adaptable birds. A little in the way of proper farm management can ensure for them adequate habitat and a secure niche in Kansas' great outdoors.

*Good habitat makes for good hunting, and these shotgunners found both in a well-managed wheat stubble field. Minimum tillage, conscientious use of pesticides, and abstention from burning are farming practices that will help ensure a future for Kansas pheasants.*

# beneath the popsicles

*If packages of game are crowding out the fresh-frozens in your freezer, here's a bunch of tasty solutions to the problem.*

Joyce Harmon

Cleaning out the freezer was an annual event when I was a kid. About the time three of us youngsters were needed to sit on the lid to keep it closed, Dad decided it was time to purge last year's wild game from the depths of that big white box. No small operation, a freezer-cleaning involved the whole family. We'd form a fire-line of package-handlers, each asking of the next: What is it—rabbit, pheasant, grouse, squirrel, venison? Blurred labels kept everyone guessing.

If your freezer has taken on a similar appearance and your family has tired of standard wild game recipes, why not try some of the following? These will make you look like a gourmet cook, but require little in the way of culinary flair. After a few such meals, you may be entertaining a long list of volunteers to help empty that freezer next year!

Remember that most recipes for domestic meat will turn out just fine if appropriate wild game is substituted. If the recipe calls for chicken, try quail, pheasant or prairie chicken. Venisonburger (venison meaning meat from any wild ungulate, not just deer) will replace ground beef. Use your imagination to concoct all kinds of creative dishes. If you come up with a particularly tasty entree, why not share it with others? Just send it to me at Rt. 2, Box 54A, Pratt, KS 67124; it may be included in our next recipe collection!

Note: "Gamey" taste in meat is often the result of improper field care. To ensure the best table fare, keep fresh-killed game clean and dry. Cool it as quickly as possible. Remove hair, feathers, shot, bullet and bone fragments, and any tissue contaminated with gut contents. Wash—then dry—areas that may have picked up dirt or offal. Cut away excess fat, as this may give the meat an off-flavor. Age the meat two to six days in a cool place. When freezing your game, be sure to double-wrap—tightly!

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## DOVES

(Blackbirds being easier targets than doves, one would think blackbird recipes would proliferate like ants at a picnic. Such is not the case, however; even the legendary blackbird pie has few devotees. If doves prove too elusive for your family scattergunner, quail beat blackbirds hands down as a substitute.)

*Doves and Dressing:*

12 doves
2 c. fresh mushrooms
3 c. bread crumbs
¼ c. chopped celery
1½ t. salt
¼ t. pepper
½ stick butter
1 T. flour
1 T. oil
2¼ c. chicken broth
1 t. minced green onions
1 t. minced parsley

Season doves inside and out. Combine mushrooms, bread crumbs, celery, salt and pepper; saute in butter. Make gravy by browning flour in oil. Add broth, onions and parsley; cook 10 minutes. Place doves over dressing in baking pan. Pour sauce over doves. Bake at 325° for 45 minutes or until tender. If using quail, stuff the birds with the bread-mushroom mixture.

*Coq au Vin (Doves in Wine):*

12 doves
10 bacon slices, diced
¾ c. sliced green onions
¾ c. chopped green or red pepper
4 to 6 small white onions, peeled
¼ pound whole mushrooms
6 to 8 small new potatoes
1-2 cloves garlic, crushed
1 t. salt
¼ t. pepper
½ t. dried thyme leaves
½ c. chicken broth
½ c. burgundy wine
chopped parsley

In large skillet, saute diced bacon, green onions and green/red peppers until bacon is crisp. Remove and drain. Add doves to skillet and brown well. Remove the doves when they have browned and set aside. Put peeled onions, mushrooms, potatoes, and garlic in crockpot. Add doves, bacon, peppers, green onions, seasonings, and chicken broth. Cover and cook on low 8 hours. During last hour, add burgundy and cook on high. Garnish with chopped parsley.

*Foil-Wrapped Doves:*

6 dove breasts
3 strips of bacon, cut in half
4 potatoes, peeled and quartered
3 carrots, peeled and thick-sliced
1 onion, quartered
1 green pepper, diced
pinch of salt and pepper
2 T. Worcestershire sauce

Wrap half a strip of bacon over each dove breast. Place on aluminum foil. Arrange vegetables around doves. Salt and pepper to taste. Pour Worcestershire sauce over doves. Seal foil tightly. Bake at 325° for 90 minutes or until meat is thoroughly cooked.

Wayne van Zwoll photo

***Doves are among the tastiest of game birds, and coq au vin (below) is an attractive way to prepare them. Here the birds are served with twice-baked potatoes, green beans and almonds, cranberry relish, and dry white wine.***

Wayne van Zwoll photo

# PHEASANTS

(Any gallinacious gamebird, like quail or prairie chicken, may be substituted. No fair using domestic fowl!)

***Pheasant-Vegetable Casserole:***

2 pheasants, cut in pieces
½ c. flour
pinch of salt and pepper
5 potatoes, sliced
10 broccoli spears
1 green pepper, sliced
3 stalks celery, sliced
1 large onion, sliced
6 carrots, halved
1 c. sour cream
1 can cream of mushroom soup

Roll pheasants in flour, salt, and pepper. Brown in hot grease, using equal portions of butter and shortening. Place in the bottom of a casserole. Add layers of potatoes, broccoli, green pepper, celery, onion, and carrots. Cover with sour cream and soup. Bake at 300° for 1½ hours or until all vegetables are tender. Add water periodically.

***Pheasant and Dumplings:***

2 pheasants, cut in pieces
½ t. each parsley flakes, salt, pepper
1 bay leaf
4 T. white wine
1 can cream of chicken soup
4 T. butter

dumplings:
2 c. sifted flour
3 t. baking powder
½ t. salt
1 egg
¾ c. milk

Place pheasants in large stewpot with water to cover. Add parsley flakes, salt, pepper, bay leaf, and wine. Boil 1½ hours or until tender. Remove pieces from broth. Add soup and butter. Make dumplings by beating egg, adding milk, and stirring into dry ingredients. Drop into broth, cover, and cook for 20 minutes or until dumplings are done, vegetables tender.

***Sweet and Sour Pheasant:***

3 pheasant breasts
3 T. oil
1 large can pineapple chunks and syrup
1 c. chicken broth
¼ c. white vinegar
2 T. soy sauce
½ t. ground ginger
¼ c. brown sugar
3 T. cornstarch
1 can sliced water chestnuts
1 large green pepper, chunked
3 large tomatoes, chunked

Skin and bone pheasant breasts; cut into half-inch-square pieces. Heat oil in skillet. Cook pheasant, stirring until it turns white. Add syrup from pineapple, ½ c. broth, vinegar, soy sauce, ginger, and brown sugar. Continue heating to boiling. Combine cornstarch and remaining broth; stir into broth until thick. Add pineapple, water chestnuts, pepper, tomatoes. Cook over low heat until hot. Serve over rice.

*Wayne van Zwoll photos*

*Opposite: Home-baked bread and fresh spinach salad augment pheasant-dumpling dish, pheasant-vegetable casserole, and sweet-and-sour pheasant. Left: Venison is irresistible when skewered with garden vegetables a la shish-ka-bob. Below: This rendition of deluxe venison loaf makes ordinary meatloaf look — and taste — bland in comparison!*

## VENISON

(Everybody uses deer in these recipes, but you can also employ that leftover elk, moose, pronghorn, caribou, sheep, goat, muskox, cape buffalo, banteng, hartebeest, sable, topi, eland, kongoni, kudu, bongo, oryx, duiker, wildebeest, gaur, and ibex.)

***Venison Pot Roast:***

4-pound venison roast
several strips salt pork
2 cloves of garlic
salt, pepper, seasoned salt to taste
flour
3 T. olive oil
2 onions, chopped
4-5 carrots, sliced
8-10 new, small potatoes
2 stalks celery, chopped
1 t. minced parsley
1¼ t. oregano
½ c. beef broth or bouillon
1 T. paprika
½ c. white wine
1 c. sour cream

Use a larding needle or sharp knife to insert strips of salt pork into the roast. Place slivers of garlic into cuts in the meat. Rub salt, pepper, and seasoned salt on roast, roll in flour, and sear on all sides in olive oil. Place meat, onions, carrots, potatoes, celery, parsley, oregano, broth, paprika, and wine in a Dutch oven. Cover and simmer 2 hours. Add broth periodically to keep moist. Make a sauce from broth and sour cream. Ladle sauce over roast and vegetables.

***Mammoth Marinated Venison Kabobs:***

marinade:

1 8-oz. bottle barbecue sauce
2 T. Worcestershire sauce
¼ t. pepper
½ t. each salt, seasoned salt, thyme
¼ c. lemon juice
1 T. onion flakes

kabobs:

3 pounds marinated and cubed venison (4 cubes per skewer)
8 cherry tomatoes
2 large onions, quartered
1 green pepper, quartered
1 red pepper, quartered
8 fresh, whole mushrooms
8 pineapple chunks (large, fresh)
1 can small, whole potatoes

Combine marinade ingredients in bowl. Soak meat at least 2 hours in this mix, then skewer with other kabob ingredients. Grill over charcoal for 10 to 15 minutes, turning frequently and basting with marinade. Serve on a bed of rice.

***Deluxe Venison Loaf:***

3 pounds ground venison
2 eggs
1½ c. bread or cracker crumbs
1 medium onion, chopped
1 green pepper, chopped
¼ pound grated or cubed cheese (cheddar, monterey jack, colby)
2 c. barbecue or tomato sauce
1½ t. salt
3-4 stalks celery, diced
1 c. sliced green salad olives
1 can mushrooms
4 carrots, sliced
¼ t. each, garlic powder, sage, thyme, pepper
2 T. Worcestershire sauce
½ t. seasoned salt
1 pkg. frozen chopped broccoli or equivalent amount of fresh broccoli
8 bacon strips, halved
16 inch-wide slices of smoked or spicy cheese

Combine all ingredients except bacon and sliced cheese in a large bowl; mix well. Place in a 13 x 9 cake pan. Form mix into 2 loaves. Alternate bacon strips with cheese slices on top. Bake at 350° for 1 hour or until done.

## LITTLE CRITTERS

(Squirrels and rabbits are your standard little critters, of course. But anything with four legs and fur should work. Remove fur before cooking.)

***Deep-Dish Rabbit Pie:***

1 or 2 rabbits
2 T. flour
pinch of salt & pepper
1 c. rabbit broth

stuffing:

3 c. mashed potatoes or rice
8 slices dry bread, cubed
½ c. celery
1 T. parsley
1 t. salt
½ t. pepper
1 egg, well-beaten
½ t. poultry seasoning
1 onion, minced
2 T. melted butter or margarine

Barely cover rabbit with salted water. Cook covered for 1½ to 2 hours or until meat is tender. Remove meat from bones and cut into small pieces. Combine ingredients to form stuffing. In a greased casserole, place alternate layers of stuffing and meat. Make sauce by combining flour, seasoning and broth, boiling until thick and smooth. Add 2 T. sauce on top of meat layers. Repeat layers until dish is filled. Bake at 350° for 25 minutes or until browned.

***Clockwise from top right: stuffed squirrel with carrots, rabbit-noodle casserole, fruited squirrel with gingersnaps, deep-dish rabbit pie. Oh, boy!***

*Rabbit-Noodle Casserole:*

1 or 2 rabbits
1 t. salt
1 bay leaf
1 onion, sliced
2 carrots, peeled and halved
1 c. grated cheese
2 c. cooked egg noodles
1 T. margarine or butter
1 can mushrooms
pinch of ground oregano
1 t. seasoned salt
1 large can tomatoes

Cover rabbit with water. Add salt, bay leaf, onion, and carrots. Cook until meat is tender. Pick meat off bones and cut into small pieces. Combine cheese and egg noodles with margarine. Place in bottom of greased casserole. Add meat layer, then mushrooms and seasonings. Cut tomatoes into chunks. Pour tomatoes with juice over top. Bake 45 minutes at 350°.

*Fruited Squirrel with Gingersnaps:*

2 squirrels, cut in pieces
12-15 prunes
⅓ c. raisins
3 T. apple cider or vinegar
9-12 gingersnaps, crumbled
½ t. salt
pinch of mixed whole pickling spices
1 onion, finely diced
3 T. brown sugar
3 T. flour

Cover squirrel with salted water. Cook until tender. Remove meat; add all ingredients except flour to the broth. Simmer for 10 minutes. Thicken sauce with flour dissolved in ¼ c. water. Add meat; heat thoroughly.

*Stuffed Squirrel with Carrots:*

1 squirrel
1 c. water
1 c. wine (white or red)
8 carrots, sliced

stuffing:

2 c. cooked rice or mashed potatoes
1 c. celery, finely chopped
1 onion, finely chopped
½ t. salt
¼ t. pepper
½ t. sage
⅛ t. garlic salt

Mix stuffing ingredients, and stuff squirrel. Place on rack in baking pan; add water and wine. Surround with carrots. Cover and bake at 375° until meat is tender. Baste frequently with liquid in pan.


*Wayne van Zwoll photo*

# *they're poisoning our fish!*

*Proving guilt is one of many tough challenges facing officials who would prevent aquatic pollution in Kansas.*

Jim Beam

It was Friday, some day last summer—and the end of one of those weeks in which every day seemed like Monday. Its only saving grace was a smattering of reports that slab-sized crappie had started hitting in the Card Creek area of Elk City Reservoir. To a fisheries biologist, the start of a good crappie run is like marrying a daughter off to the banker's son.

My smugness was only slightly diminished when an old friend, Ernie Carr, called at 6:30 PM to tell me he had seen a few dead carp while fishing the upper end of Card Creek. Upon determining that carp were the only fish Ernie had encountered, I commented that it was a shame more of them hadn't gotten it! After exchanging pleasantries for an hour or so, I returned to my recliner next to the fireplace, with the idea of checking out Ernie's report first thing Saturday morning.

My snoring had just reached the level where you wake yourself, when the phone rang again. I feigned sleep while my wife gathered up all her knitting, put it aside, and ran across the room to answer the phone. I peeked at the clock—9 PM. My better half beckoned me to the receiver, and I mentally evaluated the merits of being a public servant as I levered myself out of the recliner.

It was Paul Whitson, a retired sporting goods dealer, who can catch fish at Elk City when everyone else claims they aren't biting. Paul asked if I knew about the dead fish in Card Creek. "You mean the dead carp?" I replied. "I mean the bass, crappie, and channel cat," Paul responded. He went on to say that the site where he had found the dead fish was about a mile downstream from where Ernie had seen the carp, and that carcasses were floating all over the water. The humor and smugness quickly disappeared.

Seven o'clock Saturday morning I was headed for Card Creek. The sight was worse than I had expected. A four-pound largemouth, bleached and bloated, lay in a brushpile surrounded by floating crappie, bluegill, and carp. An eight-pound channel cat lay, half eaten, on the bank. The stench alone labeled this one a major fish kill.

After locating the downstream end of the kill, I headed up the creek, walking about two miles before finally running out of dead fish. The water surface mirrored the trace of an oil slick. Tasting the water, I noted a distinct salt flavor.

I knew there was an oil or saltwater spill upstream somewhere. Checking all the small tributaries which feed Card Creek, I drove its watershed slowly. The tributaries seemed fine, but Card Creek got saltier the further upstream I went. Finally, there it was! A two-inch pipe was oozing crude oil into a ditch that emptied into Card Creek. One small pool of the creek was covered with a sticky mass of crude oil. Still, there didn't appear to be enough oil there to have killed fish downstream in the reservoir. In fact, there weren't any dead fish in this section of the creek!

Poking around further, I discovered a white crust of salt in a nearby roadside ditch. I traced the residue to an old wooden saltwater holding tank on a wooded hillside. The tank was leaking saltwater out of virtually every seam, and the surrounding ground appeared to have been sterilized for years. A large amount of fresh dozer work in the area made it difficult for me to guess what volume of saltwater had run down the hillside into the creek, but I was certain the downstream kill had originated in this area. I began collecting water samples both above and below the point where the saltwater entered the creek, so we could pinpoint the exact source of the pollution.

The Kansas Legislature has mandated that stream pollution shall fall under the authority of the state board of health (Kansas Department of Health and Environment). Kansas statute KSA 65-171a states: "The authority of the state board of health (KDHE) in matters of stream pollution under sections 65-161 thru 65-171, inclusive, of the Revised Statutes of 1923, is hereby supplemented to include stream pollution found to be detrimental to public health or detrimental to the animals or aquatic life of the State." An additional supplement states that it shall be the duty of the attorney general, on presentation of evidence by the state board of health, to take actions as necessary to secure the abatement of pollution of surface waters detrimental to the animals or aquatic life of the State. As stated, the Kansas Fish and Game Commission has no jurisdiction in pollution matters, other than in a cooperative manner. This entails confirming and reporting cases of pollution and fish kills to the Department of Health and Environment, and aiding them in the collection of samples. . . .

State game protector Dennis Knuth and I launched a boat at the Card Creek ramp and began the sickening task of counting and identifying the dead fish. The outcome was worse than expected. An estimated 2,114 fish, of which 70% were sportfish, had been killed. Bluegill and crappie were the most numerous, with over 1,250 dead. Largemouth bass, a precious commodity in Kansas reservoirs, totaled 102.

After I notified them on Monday, health department personnel picked up the water samples I had collected and made additional sample collections of their own. The Fish and Game Commission's job had been completed.

The days that followed were marked by one confrontation after another. Everyone, even non-fishermen, wanted to know why something wasn't being done to stop the fish kills that were becoming commonplace in our area.

A month to the day after the Elk City kill, the chemical analyses of the water samples were received. Although one of the samples contained chloride (salt) which exceeded the safe drinking water

Gene Brehm photo

standard, none were even close to reaching the 20,000-milligram-per-liter concentration deemed necessary to kill fish. The KDHE report concluded that whatever had killed the fish was a "slug" of unknown material that had flowed down the creek and, due to the length of time from the actual kill until the discovery of the dead fish, this material had disappeared. The investigation was closed.

My initial reaction was unprintable! Knuth and I had 17 hours of hard work and marathon vehicle mileage tied up in that kill; and what good had it done? The more I thought about it, the more it bothered me. I considered the fresh dozer scrapings I'd noticed near the leaking saltwater holding tank; then I went to the local ASCS office and purchased an aerial photo of that site. On that photo, as plain as the lips on a granddaddy carp, was a big saltwater holding pond, right where the dozer work was now evident!

In all likelihood, the upper end of the creek filled with saltwater when the holding pond was destroyed. Dead fish in the upper reaches of the creek probably went unnoticed. The reservoir kill resulted when rainfall pushed the concentration of saltwater downstream. Finally, the contaminant was diluted in the reservoir waters.

Time eventually cooled my feelings, and I could see that this was just another fish kill with strong probable cause but only circumstantial evidence—typical of most fish kills I had worked! It seems that all cases of this type follow substantial rainfall, where the runoff eliminates all the clues that might lead you to the cause of the kill.

Acknowledging that a fish kill of this type could not be traced to its source, I felt the logical alternative was to eliminate each source of pollution before it had a chance to contaminate our waters. I began a check of oil-producing areas around the reservoir. Though I found most oil pumpers to be operating their leases in an environmentally-safe manner, there was still a minority that appeared to be flaunting the laws regulating saltwater disposal. It was on this group that we concentrated our efforts.

Since that 1982 Elk City fish kill, we have been able to report several cases of illegal saltwater disposal and other pollution sources to KDHE officials—before fish were jeopardized. In most cases, KDHE has been successful in solving the specific problem.

However, the job is far from being completed. It seems that new sources of contaminants appear as fast as the old ones are removed. The key to solving pollution problems lies with the continued cooperation of sportsmen, landowners, and the general public. It has been their timely reporting of potential sources of pollution to KDHE and Fish and Game personnel that has saved many waters.

If you discover a pollution site, or worse yet, a fish kill, don't take for granted that it has already been reported. Contact KDHE or Fish and Game personnel immediately at the following numbers:

*FISH & GAME*

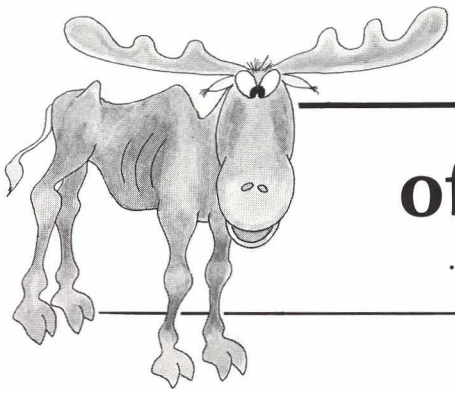
| | |
|---|---|
| Topeka | —913/273-6740 |
| Chanute | —316/431-0380 |
| Concordia | —913/243-3857 |
| Newton | —316/283-2482 |
| Hays | —913/628-8614 |
| Dodge City | —316/227-8600 |

*KDHE*

| | |
|---|---|
| Topeka | —913/862-9360 |
| Chanute | —316/431-2390 |
| Salina | —913/827-9639 |
| Wichita | —316/265-3181 |
| Hays | —913/625-5663 |
| Dodge City | —316/225-0596 |
| Bonner Springs | —913/441-4524 |

Gene Brehm photo

***A fish kill like this benefits only the gulls.***



# off trail

*. . . with Stub Snagbark©*

Cleaning out a freezer should be no more hazardous than changing the water in your fish bowl—provided you dump the contents of each. Occasionally, though, I'm tempted to sample things. Which is why my exotic fish never overpopulate.

Part of the problem with freezer packages is that, by the time they've aged properly, they're often hard to identify. And I just don't like to nibble on unknown objects. Sure I label things. But whether 1974C means a catfish caught in that year or coyote bait reserved for the '74 season is a question that always surfaces just as I'm flopping the carcass in the pan. Invariably the fish bowl comes to mind at this point, and, as its inhabitants cower in the far corner, I grab my kitchen tackle—a flour sieve on a long handle. It's very effective and no doubt will never be legal in bass tournaments.

Of course, most of us eat out of refrigerators, relegating freezers to the status of our attics—dark recesses to be explored thoroughly no more often than once every three years. Both are storage places. The reason we buy freezers is simply to keep stored things from smelling. Cold attics, of course, would work just as well. But you'd sound strange saying "Yes, we have a deer in our attic," or "Can't you do anything right Homer? This steak is attic-burned." Such embarrassing statements are spared those who own freezers.

When you must clean out a freezer—and if this is the year, listen closely—there's a right way and wrong way to do it. Most people go at it all wrong. They blithely fling open the lid and start pawing through the vegetables, old deer capes, beaver castors, and ice cream. That's dangerous. The correct procedure is to enlist help—preferably someone with the build of a middle linebacker—to hold down the lid in case anything living should decide to pop out.

Absurd? If you think so, you've never accidentally shut your golden retreiver in the freezer after having tossed in a brace of ducks to be picked later. Or cracked the lid just enough to snake a pound of bacon out—and let the cat in. Pets can be a plague when you're working with freezers. That's why I limit my resident wildlife to tropical fish.

At any rate, once you've opened the lid, you've committed yourself. There's no turning back, and you might as well start handing stuff to your linebacker. If all you can scrounge in the way of an accomplice is your spouse, the job can still be done. It will simply take longer, as football players are more adept at throwing things.

Whoever your assistant, you must make it clear that under no circumstances will anything be retained without your written permission. No matter how good that antelope loin looks, if it's wrapped in newspaper advertising Peter, Paul, and Mary in concert, it must be discarded. Meat is better if aged well, but you mustn't push it to senility.

Your assistant should also be familiar with your labeling codes. He (she) should know, for example, that r.s. means rattlesnake, not round steak, and that the date on the freezer paper may be when it was *first* used. I found a scrap on a pheasant I was about to pick the other day that had four dates on it, the first 1961. Had I not turned the package over, I'd have missed the last marking of 1972 and thrown the bird away prematurely.

I prefer to wrap my game in newspapers, as most are dated and I needn't jot down anything but species abbreviations—like r.s. Saves time and my felt-tip marker. As foolproof as this system seems, it *can* backfire. My better half thought that packages of venison backstrap, appropriately labeled VBS, were somehow destined for Vacation Bible School. The kids preferred graham crackers to her offering, however, and I had to refreeze it.

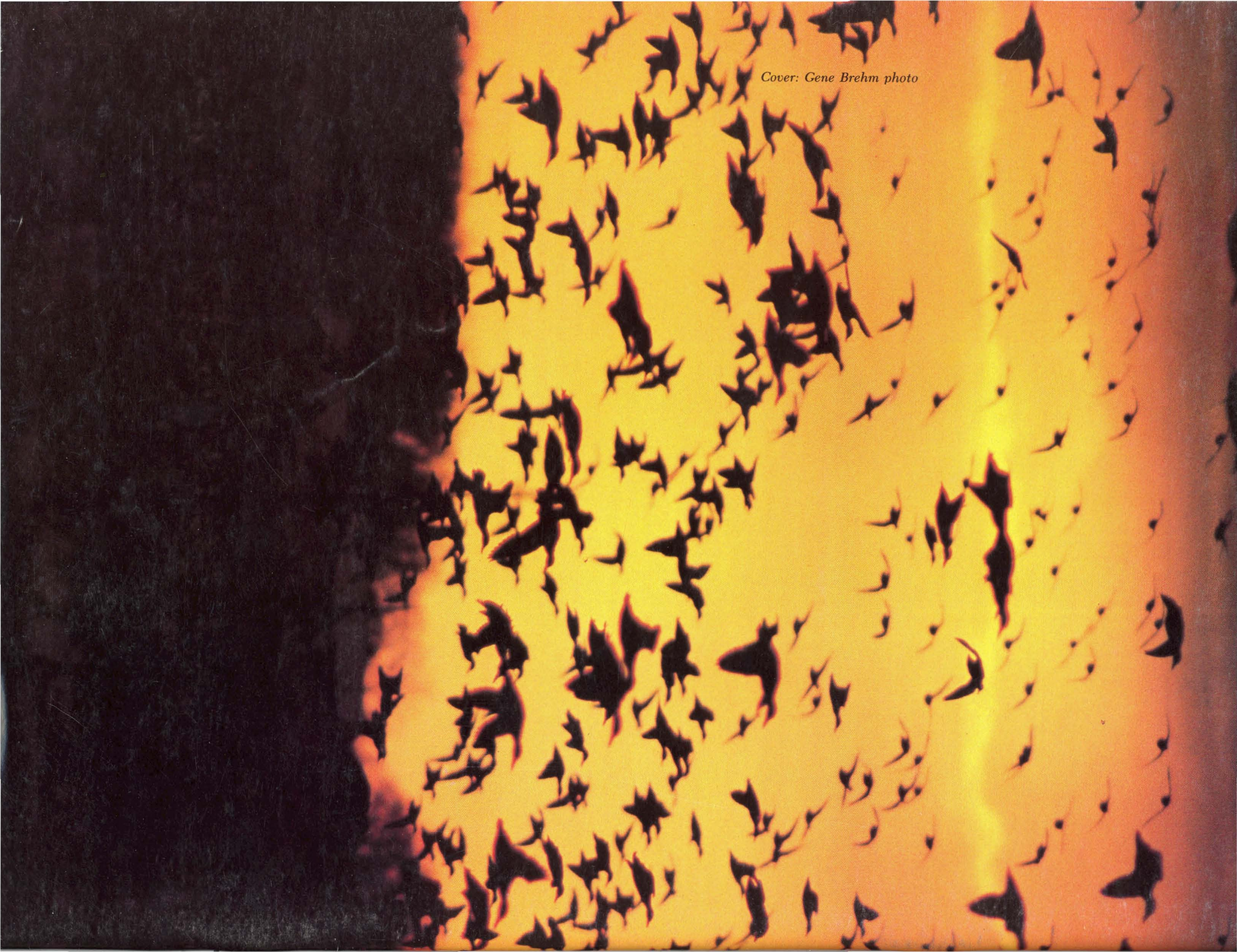
Once you've made it through the first few layers, you may be tempted to give up. Don't you do it! That hideous mess staring at you from the gaping throat of your freezer should be of more concern than the rocky admixture of newspaper-wrapped flesh your neighborhood linebacker is still heaving into the trash can. In the bowels of a freezer are found some truly strange phenomena. Sandwich bags, packed full of raspberries sometime during the last decade, have split under the frigid grip of their environs, their contents now red, crystalline masses cementing packages of beef liver to the bedraggled remains of unskinned cottontails.

Under the bag of yellowed asparagus you picked from an Endrin-salted orchard in 1980 reposes the rigid corpse of a sockeye salmon, its grim visage locked dispassionately on a purple popsicle. There in the corner is that shell vest you were looking for, still housing the mallard drake you were too tired to clean the night of the 1969 Christmas party. And that. Yes, it is—the road-killed owl your son picked up on his way to kindergarten. You really should phone his dormitory to see if he wants it saved.

Beneath these objects, in the depths of the abyss, a glint of white winks at you. Could it be? It is! The Bottom! Your linebacker is throwing caution to the wind now, and you must take care that you do not end up in the trash can yourself. Soon the bloodstained ice lining the gut cavity of your freezer is all that remains inside. In a day it will melt. You'll drain the white monster and maybe even scrub it. For now, you are done.

You retire to the kitchen, scramble a dozen eggs for your burly accomplice, select a fat goldfish or two for yourself, and sit down to a well-deserved meal. You tack a note on the bulletin board forbidding anyone to clean the freezer again until the next Presidential election. Then you bid your football friend goodnight and hit the sack.

Just before you douse the lights, though, you tip-toe out to the kennel and make sure your retriever is accounted for.



*Cover: Gene Brehm photo*